

Oct.-Nov. 2014
Vol. 17, No. 7

GSCA Conference and Trade Show, Sept. 20–23

Nearly 400 people attended the **Giant Screen Cinema Association's** annual conference and trade show, held in Toronto, ON, Canada, the home town of **Imax Corporation**, Sept. 20–23. The meeting featured screenings of 23 new films, 21 films in production, and 19 films in development, panel discussions, an awards presentation, and a technical session that featured the first GS-industry demonstration of a laser-powered digital projector. Screenings in IMAX film and digital formats were held at the **Cineplex Scotiabank Theatre**, a few blocks from the conference hotel, and at the **Ontario Science Center**. The laser demo was held at the **Cineplex Cinemas Queensway** multiplex, a few miles outside of the city.

The association saved the most significant event for last, scheduling the technical session on the final day of the meeting, but our coverage will not follow suit. This issue will cover the technical session, the “Wow” Moments session, and the awards presentation. Next month's issue

will conclude our coverage with reports on the panel discussions.

Lasers

The technical session was planned and implemented by the GSCA's Technical Committee. **Christie**, **Electrosonic**, and **Dolby** coordinated the temporary installation of a Christie 6P (six-primary) 4K dual-projector system, with light output of over 90,000 lumens, using Dolby 3D on a 36x67-foot (11x20.4-meter) screen. The 3D light level was 14 foot-Lamberts.

In 6P systems, the lasers of the two projectors are tuned to generate slightly different sets of the red, green, and blue primary colors, and each eye of the 3D glasses passes one set and blocks the other. Because they don't need to maintain polarization of the light, these systems can use matte white screens, avoiding silver screens' typical problem with hot spots, particularly with 2D material: the center of the image is very bright, but the sides are much dimmer.

An extended clip from **James Cameron's** *Avatar* and the trailer from Disney's animated feature *Frozen*, both in 3D and timed for 14-fL, were screened to show off the capabilities of the laser system. Later, 30 minutes of clips were presented from a number of GS films, including *Flight of the Butterflies*, *In Saturn's Rings*, and *Jerusalem*.

The laser system projected a very bright, sharp, and contrasty image, with even light across the full width of the screen. There was virtually no noticeable speckle, a distracting optical phenomenon that can occur with laser projection. The Dolby color-separation glasses, which pass more light than polarized or active glasses, pro-

(see GSCA on page 6)

Domes: Past, Present, and Future, Part 1

by Martin Howe

Digital domes. They're complicated. I've spent many, many hours in domes: watching them, enjoying them, cursing them, shaking my head in frustration at them, and, more than once, shedding a little tear in them (in a good way). I've been asked by *LF Examiner* to put together my own perspective on the subject. In particular to look forward, from a technical perspective, to the future of domes and how emerging technologies, such as laser illumination, will make the world, or at least the world of domes, a better place.

This is a subject very close to my heart. And soul. So with the editor's encouragement, I have decided to go all-in and share my thoughts and experiences and a few facts about the future of domes. It's a big subject, and to make it easier to digest, it's being presented in three parts: the Past (in this issue), the Present, and the Future (in the next two issues).

If you're in the market for a new digital system, don't look for any answers in this first part, the Past. It doesn't provide any (they'll come later). It's here to put the challenge of digital domes – for operators, producers, vendors, marketeers, *et al* – into perspective. To move forward we're going to have to overcome certain stigmas around digital domes, most of which we've created ourselves in our infectious

(see **HOWE** on page 17)

Premiering in October, November
Dracula Untold
John Wick
Interstellar

See page 19.

Inside *LF Examiner*

8K Dome Demo in Richmond, VA	3
The Biz: News, Personnel	4–5
Graeme Ferguson on the Future of Film	10
Conference Films	12–13
In Production	14–15
Premiering in Oct. and Nov.	19
Worldwide LF Theater Inventory	20
Bookings Data	10–25
Directory	26–27
Classified Ads	27
Shorts	28

Founded 1997 as MaxImage!

Oct.-Nov. 2014
Vol. 17, No. 7

Editor/Publisher
James Hyder

Associate Editor
William Hyder

Circulation Manager
Thomas Jacobs

Published 9 times a year by
Cinergetics, LLC, and distributed
by first class mail.
Printed in the USA.

ISSN 1532-5504

Subscriptions: US\$447
Outside North America: US\$487
All payments must be made in
US funds.
Substantial discounts are
available for multiple subscrip-
tions to the same address.

Editorial Offices
205 Sudbrook Lane
Pikesville, MD 21208 USA
Tel: 410-997-2780
editor@LFXaminer.com

©2014 by Cinergetics, LLC
All rights reserved. No portion
of this publication may be repro-
duced by any means without
written permission of the copy-
right holder.

Copyright Warning and Notice
It is a violation of U.S. and
international copyright laws to
reproduce all or part of this
publication or its contents by
any means. The U.S. Copyright
Act imposes liability of up to
\$150,000 per issue for such
infringement.

Information concerning illicit
duplication will be gratefully
received.

Individuals and organizations
wishing to reprint articles from *LF
Examiner* must obtain written
permission from us in advance.

The opinions of contributors are
not necessarily those of *LF
Examiner* or its parent company,
Cinergetics, LLC.

Trademarks referred to in *LF
Examiner* are the property of their
respective owners.

GSCA's 8K Digital Dome Demo in Richmond

by James Hyder

On Oct. 22, more than 60 people gathered at the **Science Museum of Virginia** in Richmond to attend a demonstration of "8K" full-dome projection, organized by the **Giant Screen Cinema Association**. The demo immediately followed the annual conference of the **Association of Science-Technology Centers** in Raleigh, NC, about 150 miles (240 kilometers) to the south, and a number of ASTC delegates traveled on a bus the GSCA chartered for the purpose.

The museum's theater opened as an IMAX Dome theater in 1983, with a 76-foot (23-meter) dome and the world's first Digistar digital planetarium system, from **Evans & Sutherland**. The planetarium system was upgraded to Digistar II in 1997. Late in 2013, the museum dropped the IMAX brand (but kept the projector, which it owns outright) and in March 2014, after being closed since the first of the year, reopened with the latest Digistar 5 8K full-dome system and a new Spitz NanoSeam 180-degree screen.

The Digistar 5 features five Christie 4K DLP digital cinema projectors, each outputting 25,000 lumens to yield an overall image that is 4 foot-Lamberts, and can project 3D at 60 fps using **Xpand** active glasses. With edge blending, the 8 million total pixels of the five projectors actually display about 6 million unique pixels. The system uses E&S's proprietary auto alignment and auto blending software to create a seamless and uniform image across the dome. It has a real-time digital astronomy package and the ability to present pre-rendered full-dome shows, including the 40 giant-screen films that E&S has scanned and formatted for full-dome theaters.

Film/digital shootout

The GSCA's demo featured the first-ever side-by-side shootout between 15/70 film and digital content on a dome. The source material was scanned at 4Kx3K and digitally warped to the 4Kx4K full-dome format. Evans & Sutherland technicians masked the various projectors so that film was projected on the left half of the dome and digital was visible on the right. The IMAX projector was synchronized with the Digistar 5 and trailers from four GS films were screened: *Flying Monsters*, *Space Junk*, *Pandas: The Journey Home*, and *Sea Rex*.

As in the shootouts held at **Moody Gardens** in Galveston, TX, in 2011 and 2012, the digital image was surprisingly good in comparison to film. Alt-

hough slight color differences were visible, they weren't significant or objectionable, and resolution and brightness were very close between the two. The film image had somewhat more contrast, but overall, digital was close enough to film that most people could not see a significant difference.

Having seen **Sky-Skan's** 8K system in Boulder, CO, in March (see *LF Examiner*, March-April 2014), and now seeing E&S' system, I feel that 8K dome projection can now be a worthy replacement for 15/70 film. Scanning GS material at rates higher than 4K would probably yield noticeable improvements, but the GS conversions we saw in Richmond were very good.

And the quality of native 8K production at 60 fps was even better. Although we did not see an entire 8K show in Richmond, the clips presented there, and Sky-Skan's 8K 60 fps show, *To Space and Back*, which I saw in Boulder, proved to me that digital is capable of surpassing film imagery in the dome.

Fraser on Convergence

Paul Fraser, of consulting firm **Blaze Digital Cinema Works**, presented the results of the survey of dome theaters he conducted earlier this year and summarized in the Summer issue of *LFX*. He also moderated a discussion among operators of three dome theaters: **Gary Monti** of the **Cradle of Aviation Museum** in Garden City, NY; **Craig Blower** of the **Reuben H. Fleet Science Center** in San Diego, CA; and the Science Museum of Virginia's **Terri Rose**. All three were built as IMAX Dome theaters, and added digital full-dome system in the past few years, keeping the 15/70 film projector while dropping or de-emphasizing the IMAX brand.

Monti (who recounted his theater's experiences in the September 2013 issue) said that the bad experience of trying to show Hollywood DMR films had led the museum to re-examine and expand its mission, and that, as an air and space museum, adding planetarium capabilities to its dome theater made perfect sense. Partnering with **National Geographic** for 15/70 content has been "a very good fit for us," so he hasn't shown repurposed GS films on his **Global Immersion** full-dome system yet, but may in the future.

Rose said that the museum plans to retire the

Corrections

In the September issue, the caption of the photograph on page 11 incorrectly identified the person threading a camera on a helicopter nose mount. It was Ron Goodman, not Bob Cranston.

15/70 projector in January, in part because the digital versions of GS films have “received nothing but positive reviews.” The move will allow the theater to reclaim about 20 seats that are now taken up by the film projector’s “doghouse.” In terms of content, she said that “we do our best work when we have an educator help us explain the content and really bring it to life. Visitor responses to that kind of thing are always higher.” So the museum has launched “Cosmic Expeditions,” a combination of a 25-minute recorded fulldome show and a 25-minute interactive star show with a live presenter who takes audience requests and answers their questions.

Blower was noncommittal about removing the film projector, saying that “we’ve always had both, since we opened 41 years ago with our starball and our [IMAX] 15/70.” A Sky-Skan fulldome system was installed last year, but they don’t use it to screen converted GS films. “Why would we? If it’s available in 15/70, we’re going to play it in 15/70. The light output for our current system isn’t close to the IMAX system.” The Fleet’s schedule is about 70% film, 30% fulldome.

New Digital Content Realities

Former GSCA chairman **Toby Menforth** moderated a discussion about the vast array of content that is now available for digital systems of all kinds. He said that science education is the “critical element to the creation of all content for the industry,” and recalled that the conversation about convergence between the fulldome and giant-screen worlds began in March at a workshop before the **IMERSA Summit** in Denver (see *LFX, March-April and May-June 2014*).

Ryan Wyatt of San Francisco’s **California Academy of Sciences** said that his digital planetarium, with a 30-degree tilt, 290 seats, and a 75-foot (23-meter) diameter dome, is “very similar to an IMAX Dome.” But as the previous executive director had said, “the planetarium is bigger than the universe.” So the museum creates its own shows that incorporate not only astronomy, but earth science, biology, and ecosystems, taking advantage of the Bay area’s plentiful supply of visual effects talent. But every public show incorporates

a segment with a live presenter in the middle. The Academy has several other digital theaters or presentation spaces that all run on the same software.

Planetarium veteran **Ian McLennan** said that a well-done live presentation provides a level of engagement that recorded programs can’t, and that “by its very ephemeral state it achieves a type of theater that we all really should be striving for.” He said that some of the most exciting new work he’s heard about is being done at the **Ontario Science Center** in Toronto and at the **Pacific Science Center** in Seattle, where very young children are being exposed to planetarium programs. “The educational objectives are extremely limited: you’re not trying to impart any particular set of information. You’re simply trying to create an environment where the kids will be comfortable in the dark... and have a positive experience of the sky above. If you do that for a two-and-a-half-year-old kid, you’ve probably created a planetarium goer for life.”

E&S’ **Michael Daut** said that although early fulldome shows have borrowed their linear structure from films and TV shows, “there’s a uniqueness to the immersive medium, and the theatricality of [live presenters] makes it come alive” in ways that other media can’t achieve. “The dome is the closest thing we have to the holodeck in *Star Trek*. You’re transporting audience

to different places. And if you go to someplace new, what do you usually have? A guide of some sort.” The live aspect of fulldome shows can be a powerful differentiator. “We don’t want to just be another screen. There are so many screens with so many different brandings on them that sometimes you get lost in the shuffle. As content creators we need to learn how to make it special.”

Other presentations

The day’s offerings included a repeat of the “Bring Back Our Wide Shots” test of digital cameras presented by cinematographer **James Neihouse** at the GSCA’s conference in Toronto (see coverage starting on page 1), a demonstration of the 3D capabilities of the Digistar 5, and a presentation on the various ways GS images can be digitally warped to fit on a dome. Two young presenters on the staff of the museum showed how they can liven up live astronomy shows for young people with interactive games and audience participation. Another staffer showed off the Digistar’s powerful showbuilding capabilities that allow users to assemble and animate elements — whether the digital 3D universe and the thousands of objects in its database, still images, 3D models, or audio recordings — for use in a live show, or as a completely pre-recorded show.



The Science Museum of Virginia, in Richmond, hosted the 8K Digital Dome Demo.

THE BIZ

NEWS

Imax reports \$5.3M Q3 profit

Imax Corporation reported its financial results for the quarter ending Sept. 30, 2014, on Oct. 23. The company earned a profit of \$5.3 million (\$0.07 per share) from continuing operations on revenues of \$60.7 million, compared to a profit of \$1.7 million (\$0.02 per share) on revenues of \$51.5 million in the third quarter of 2013. For the nine months ending Sept. 30, Imax earned \$19.3 million (\$0.27 per share) from continuing operations on revenues of \$188.1 million, compared to \$16.6 million (\$0.24 per share) on revenues of \$182.9 million in the same period of 2013.

The company signed deals for 36 new theater systems and six upgrades in the third quarter, bringing signings for the full year to 102. Twenty new theaters were installed in 2014's Q3, thirteen of which were in China, bringing the total of IMAX theaters in China to 165 theaters in 78 cities. As of Sept. 30, Imax's backlog of theaters stands at a record 439, compared to 356 a year ago.

In a conference call CEO Richard Gelfond said that the first laser-powered

IMAX system would be installed in Toronto in December, and CFO Joe Sparacio said he expected 10 to 15 theaters to switch to the laser system in 2015. He added, "We anticipate a few theaters to be upgraded in the first half of the year, most likely on the institutional side, with the remaining upgrades to occur in the August, November timeframe." In response to a question, Gelfond said he didn't expect laser theaters to charge more for tickets, and added, "from a brand point of view, I don't think we're going to create a new product called IMAX Laser; it's going to be called IMAX, and I think it's going to lift the image and perception of the entire network."

Herzog's IMAX *Volcano* film

The first film to be partly funded by the IMAX Original Film Fund (see *interview with Greg Foster, Summer 2014*) will be *Volcano*, a giant-screen documentary written and directed by Werner Herzog. The film will be shot with IMAX digital 3D cameras and produced by Herzog's production company and London-based Spring Films. According to a report at

RealScreen.com, filming will take place in five countries over the next year. No release date has been set.

Herzog will be working with Cambridge volcanologist Clive Oppenheimer, and said in a statement that, "I am confident we will bring back images not seen on screen so far, and ideal for the IMAX Experience."

Herzog is the director of features such as *Aguirre, the Wrath of God*; *Nosferatu*; and *Grizzly Man*, and documentaries like the Oscar-nominated *Encounters at the End of the World* and the 2010 3D docu, *Cave of Forgotten Dreams*. *Volcano* will be his first foray into the giant screen.

Harrisburg, VA Beach drop IMAX

The Whitaker Center for Science and the Arts in Harrisburg, PA, and the Virginia Aquarium and Marine Science Center in Virginia Beach, VA, have removed their IMAX film projectors and replaced them with dual 4K projection systems provided by D3D Cinema.

In Pennsylvania, the Whitaker Center's 209-seat theater reopened on Oct. 18, renamed as the Select Medical Digital Cinema. It has two NEC 4K projectors, a MasterImage 3D system, a new 12,000-watt QSC sound system, and a new 38x70-foot (11.6x21.3-meter) silver screen, 14 feet (4 meters) shorter than the original screen. In a second phase, set for 12 to 36 months from now, the projectors will be upgraded to Christie 6P laser-illuminated systems. The theater opened with an IMAX 3D GT film projector in 1999.

According to Steve Bishop, vice president for science and cinema programs, the most challenging parts of the project were demolishing and rebuilding the front wall of the projection booth, which required taking jackhammers to the thick cinderblock construction, and hand-carrying the new projection port glass, too large to fit in an elevator, up several flights of fire stairs.

The new system operates automatically without a projectionist, although it can be



Workers tearing down the front wall of the projection booth at the Whitaker Center in Harrisburg, PA.

Photo by Steve Bishop, Whitaker Center.

THE BIZ

NEWS

manually controlled from the concession stand, where a monitor shows picture and sound from inside the theater.

In Virginia Beach, the 14-year-old theater was converted from IMAX 15/70 to dual Barco 4K digital in October, with MasterImage 3D, a QSC sound system, a new screen, new carpeting, and new seats as well. It reopens in November.

St. Louis Arch theater to close

The Arch Odyssey Theatre and the Museum of Westward Expansion, both located in the underground visitor's center of St. Louis' Gateway Arch, will close early next year, as the monument and its grounds begin a massive, multi-year expansion and redesign.

The 265-seat theater opened in 1993 with a Cinema Development Company 15/70 projector and a 35x50-foot (11x15-meter) screen. In keeping with the theme of the location, it has highlighted National Geographic's GS film, *Lewis & Clark: Great Journey West* since the film's release in 2002.

The renovation, which officially began earlier this month, will extensively reshape the landscaping of the 90-acre (36-hectare) site, bringing together elements that have been separated by a highway and extending park space to the edge of the Mississippi River. The completely redesigned visitor's center, set to reopen in May 2017, will expand the museum space and will include a new digital theater whose size and configuration have not been determined.

Bradford, Picturehouse deal

The National Media Museum in Bradford, UK, has entered into a "commercial partnership" under which Picturehouse Cinemas will "[take] over operation of the three screens at the Museum...the 300-seat Pictureville, the 100-seat Cubby Broccoli Cinema, and Europe's first IMAX screen." The deal became effective on Oct. 31.

Bradford's IMAX theater is a 350-seat SR auditorium with a 45x65-foot (16x19-

meter) screen. It opened in 1983. The Pictureville theater is one of only three in the world capable of showing three-strip Cinerama films.

Picturehouse Cinemas owns and operates 19 theaters in Britain, and operates another 42.

Imax, Fox sign 4-picture deal

Imax Corporation has signed a deal with Twentieth Century Fox to release four of the studio's films "in select international territories" over the next few months. The deal includes DreamWorks Animation's *Penguins of Madagascar*, which opens internationally on Nov. 26; Ridley Scott's biblical epic *Exodus: Gods and Kings*, launching on Dec. 4; *Night at the Museum: Secret of the Tomb* on Dec. 17; and EuropaCorp's *Taken 3* on Jan. 8. The films will be released in select IMAX theatres in countries throughout Europe, Asia, the Middle East, and Latin America.

China's Stellar gets 4 more IMAXes

Stellar Cinemas has signed a deal with Imax Corporation to install four more IMAX theaters in China, bringing its total commitment to 11, of which four are currently open. Stellar operates 80 multiplexes throughout China.

Barco acquires Iosono

Belgian projector maker Barco has acquired Iosono, a German developer of 3D sound systems, in an effort to "enhance and customize its object-based immersive sound technology," according to a press release. The company will integrate Iosono technology into its Auro sound systems, which have been, or will be, installed in 500 theaters worldwide. The CEO of Iosono, Olaf Stepputat, has been named director of Barco Audio Technologies.

In a separate development, Barco announced that it has launched its three-screen Escape format in Kinepolis multiplexes in Brussels and Antwerp, Belgium. As we reported previously, the Escape system uses two additional screens at the

PERSONNEL

side of the main screen to create a more immersive theater experience than conventional presentations. The first film to be released in the format, *The Maze Runner*, opened in September in five locations in the U.S.

Greismer goes to Hampton, VA

Bob Griesmer has been named executive director of the Virginia Air and Space Center, replacing Brian DeProfio, who has been interim executive director for the past three years. Griesmer comes to the center from the New Children's Museum in West Hartford, CT, where he had been president and CEO since 2011. Before that he was at the Maritime Aquarium at Norwalk, CT, for more than 20 years, most recently as COO. The aquarium is the state's second-largest tourist attraction, and home to a 365-seat IMAX theater that opened in 1988.

VASC opened its 285-seat IMAX theater in 1992, and in 2010 was the first museum theater to convert to IMAX digital.

Mensforth joins Event Network

Toby Mensforth has been named vice president of partnership development by San Diego-based Event Network, Inc., a leading operator of gift shops in museums, science centers, aquariums, and other cultural attractions. Event Network's clients include the California Science Center, the Pacific Science Center, and the Museum of Science in Boston.

Since 2011 Mensforth has been consulting to giant-screen and fulldome clients. From 2001 to 2011 he was vice president of theaters and concessions for Smithsonian Enterprises, where he oversaw the Smithsonian's three IMAX theaters and several gift shops. During this time he also served as chairman of the Giant Screen Cinema Association. Before the Smithsonian, Mensforth was director of IMAX theaters for Imax Corporation for about ten years.

Mensforth will continue to work from his home in Washington, DC.

GSCA's Conference in Toronto



Greg Niven of Necsel and LIPA.

(from GSCA on page 1)

vided nearly ghost-free 3D images. (One minor snag that many people noticed: the dichroic coating on many, if not most, of the Dolby glasses did not fully extend to the outside edges of the lenses, resulting in color fringing that was visible in some circumstances. Dolby is aware of the problem and working on a solution.)

Overall, the laser image was significantly better in virtually every respect than the conference's other digital screenings, which were projected by a standard 2K-based IMAX digital system on the Scotiabank theater's somewhat larger (60x78-foot/18x24-meter) screen.

Greg Niven, a vice president with laser maker Necsel (a subsidiary of lamp maker Ushio), and chairman of the **Laser Illuminated Projector Association (LIPA)**, reviewed the current state of regulatory issues with respect to laser projectors. The U.S. Food and Drug Administration, which regulates health issues dealing with lasers, initially placed laser-powered cinema projectors in the same category as the laser devices used in 80s-style laser light shows, as have other governments. Those lasers, which have the potential for damaging viewers' eyes, require special permits and are subject to restrictions regarding how and where they can be installed.

These rules are inappropriate for cinema projectors that output non-collimated light that is no different from the light produced by xenon lamp-powered projectors. However, early laser-illuminated projectors have had to follow these regulations.

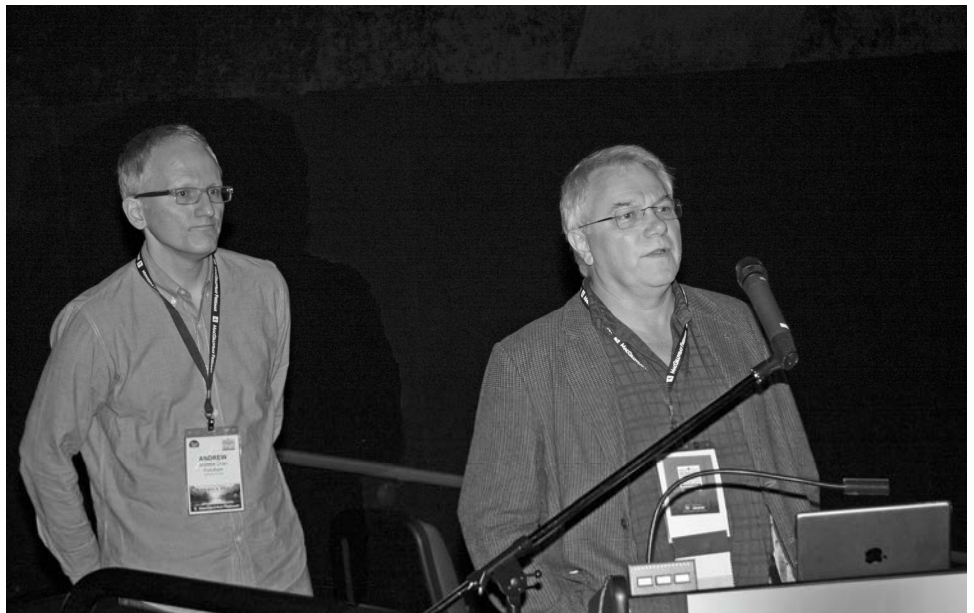
LIPA has been working to get laser projectors moved to more appropriate categories, and Niven reported that the **International Electrotechnical Commission** has done so in the latest draft of its standards, treating light from laser-illuminated projectors

under the standards for lamps, not lasers. The new standards should be adopted in early 2015. Japan has already adopted the standard, so laser-illuminated projectors can be installed there with no special consideration. Niven says he expects the same to be true in the U.S. "later this year," but advised that the "situation in the [European Union] is more complicated because of individual countries' workplace safety rules." LIPA will be working to see that the standards are adopted

throughout Europe.

Martin Howe, CEO of **TEQ4**, reviewed the state of the fledgling laser projector market, about which, he said, little hard information is available, because of its competitive nature. Three manufacturers are making laser-powered projectors for giant-screen theaters: Barco, Christie, and Imax. Barco currently has laser systems installed in the U.S. and China, and "will install dozens more in Q4 of this year," in those countries, Latin America, and Europe. Christie told Howe that it "plans to ship \$30 million in laser projectors before March 31, 2015," and that its lead time for orders placed today is four months. Imax's **Mike Lutz** told Howe that the company has signed deals for 68 laser systems in 12 countries and that installations will begin later this year. Among the museum clients who will get IMAX laser systems are the **Smithsonian Institution's** three IMAX screens; Ft. Lauderdale's **Museum of Discovery and Science**; Canada's **Royal British Columbia Museum** in Victoria; and the **Science Museum of Minnesota**, which will get the first laser system installed in a dome theater.

Looking at the future, Howe assured listeners that lasers are safe, and will provide brighter 3D, with better color, will



FotoKem's Andrew Oran and cinematographer James Neihouse presented digital camera test results.

Photomontage by James Hyder.

offer high frame rates, and great images in domes.

High frame rates

Two other presentations in the technical session highlighted the image enhancement provided by high frame rates (HFR), that is, shooting and projecting images at rates greater than the conventional 24 frames per second used for most film projectors, including 35mm and IMAX 15/70. In 2011, James Cameron created a demonstration of the advantages of HFR that was screened at that year's **Cinemacon** conference and other industry meetings. It was shown to the GS industry for the first time in Toronto.

Cameron shot a number of sequences depicting a medieval feast and sword fighting sequence, complete with lavish costumes and sets, and including action and camera moves that would cause strobing or judder at the standard 24 fps rate. Each scene was shot and played back at 24, 48, and 60 fps. In voice-over, Cameron pointed out the disturbing motion artifacts visible at 24 fps, then showed how they were reduced or eliminated at 48 or 60 fps, arguing that in the digital age there is little need to continue shooting at a low frame rate that is a legacy of the need, in the early 20th century, to minimize the amount of film used.

An even more compelling demonstration was presented in person by inventor and special effects veteran **Douglas Trumbull**, who first championed HFR in the 1980s with his **Showscan** process, which ran 5/70 film at 60 fps. In Toronto he discussed his latest system, **Magi**, which captures and presents 4K 3D footage at 120 fps. He showed *UFOTOG*, a 10-minute sci-fi story designed to highlight the benefits of his patented system, although because of hardware limitations in the conference's temporary setup, playback was 2K, not 4K.

The film, which may become part of a full-length feature, focuses on a lone researcher who is attempting to photograph UFOs, and the efforts of a sinister government agency to capture and silence him. The live-action sequences were, like *Showscan*, brilliant and sharp, and felt

like looking through a window at the real world. Trumbull, the Academy Award-winning VFX expert responsible for the effects in *2001: A Space Odyssey*, *Close Encounters of the Third Kind*, and many other classic films, shot *UFOTOG* in his small studio in western Massachusetts. He used software from **Eyeon** to transform green-screen studio scenes into exteriors and incorporate other digital and practical effects into the film.

In a conversation about HFR after the demo, Trumbull told *LFX* that he thought the negative reaction some people had to **Peter Jackson's** *The Hobbit*, shot at 48 fps, was in part because it fell into "the uncanny valley of frame rates," and that, paradoxically, some of those problems would not have arisen at higher rates. He also agreed that part of the problem was "applying a hyper-real technology to a fantasy engagement of suspension of disbelief."

Bring Back Our Wide Shots

Veteran GS cinematographer **James Neihouse** and **FotoKem's** **Andrew Oran** presented the results of a test they conducted on behalf of the GSCA to compare footage captured on 15/65 film with that of five digital cameras: the **Arri** Alexa XT, **Canon** C500, **RED** Dragon, **RED** Epic, and **Sony** F65. Neihouse picked several locations with fine details – a marina with sailboat masts and ropes, a cityscape with many buildings, a bridge over a wooded valley – "to give the digital cameras a run for their money," and shot footage at 24 fps with each camera. The same lens was used on all of the digital cameras, so as to "remove one variable from the equation," and each camera's lowest compression setting was used.

The 15/65 film was scanned at 11K



Douglas Trumbull demonstrated his new HFR 4K 3D system.

resolution, and the digital material was presented without any sharpening or enhancement other than color timing. (Future tests are planned to compare the results of various enhancement techniques.) The digital footage was shown first in its original (wide) aspect ratio, then expanded to fill the height of the 15/70 frame, which effectively reduced the overall resolution by magnifying the image.

Although Neihouse didn't express an opinion about a specific digital camera, the general consensus was that the Canon and Sony cameras were noticeably sharper in most scenes than the others, although 15/70 film still had an obvious advantage in terms of detail and crispness. He said, "If you can start with the best image possible, you'll have to do less post work, and have less chance of mucking it up."

The technical session also included a demonstration of Dolby's Atmos sound system and a tutorial on "3D for the Giant Screen" by filmmaker **Phil Streather**.

GS "wow" moments

Director **Daniel Ferguson** moderated the second annual session on "wow" moments, the thrilling shots and scenes that only giant-screen films can provide. The panelists were three veteran GS filmmakers

(see GSCA on page 8)



Toni Myers discussed creating giant-screen “wow” moments.

(from *GSCA* on page 7)

ers — **Greg MacGillivray**, **Toni Myers**, and **Stephen Low** — each of whom selected scenes from their own films, and from one of the others, to highlight the concept, and explain how the “wow” moments were created.

MacGillivray started out by reading a brief statement (reproduced in its entirety at right) about the origins of the GS industry. He explained that “wow” moments can take years of planning, and gave the example of the skysurfing sequence in 2000’s *Adventures in Wild California*. To film a series of freefall jumps over San Diego with an IMAX film camera, he selected stuntman **Troy Hartman** and freefall cameraman **Joe Jennings** who “practiced and practiced and practiced” the stunts and camera moves. At first a box with lead weights was strapped to Jennings’ chest to simulate the IMAX Mark II camera. When the modified camera was available, they started shooting film — 500-foot loads at 48 fps, for only 45 seconds of footage per jump — and critiquing the footage. They worked for four or five months to perfect the choreography of the jumps, “then we waited for it to rain...so we would have absolutely crystal clear skies.” It took another two months to get three clear days of shooting after three

storms. But the result is like really being there with the jumpers. MacGillivray said, “‘Wow’ moments have never been any better than they were in 15/70.” (The three-minute clip is available online at tinyurl.com/aiwcSS.)

Myers credited filmmaker and Imax co-founder **Graeme Ferguson** as the original “wowmeister,” and said that her first clip, a Space Shuttle launch and scenes in space from *The Dream Is Alive*, was entirely Ferguson’s work as the

film’s director. From the time Apollo 11 astronaut **Mike Collins**, then the first director of the **National Air and Space Museum**, realized that IMAX was the way to take ordinary people into space, it took Ferguson ten years to actually get IMAX cameras into space. Before that he made an entire film, *Hail Columbia*, as a proof of concept “to show the high-ups at NASA and the Smithsonian why you would want to be close up at a launch. It was only ten years...but we made it.” (*The Dream Is Alive* is on Youtube in its entirety. The clip shown was from about 5:30 to 8:30.)

Low said that although it often takes years to get to the point of shooting a GS film, “once you get into position, you have to be ready to shoot, with your finger on the button, because you often won’t necessarily see it again. You’ve got one chance to get the shot and you’d better be rolling.” However, to shoot the wreck of the *Titanic*, 12,000 feet (3,700 meters) below the surface of the ocean, for 1992’s *Titanica*, took Low years of planning and 18 dives in a Russian submersible (years before **James Cameron** would do it for his epic drama), as well as inventing new lighting systems to illuminate the huge ship. “You don’t know if you’re going to have a second dive. It turned out we had 18 dives, but it could have ended after one dive.” His clip included the dramatic discovery of the *Titanic* on the sea floor.

Daniel Ferguson pointed out how the clips illustrated some of the characteristics of the best GS films: shots that continue uncut for 30 seconds or more, complex sound design intended to put the viewer into the scene, and the absence of narration that would tend to kill the illusion of being there.

MacGillivray’s second clip was the opening of 1989’s *To the Limit*, which featured an extended skiing sequence with POV shots slaloming down a hill at 70 or 80 mph (110-130 kph). He recounted approaching Imax’s engineer Bill Shaw with the idea of building a 15/65 camera that could shoot 110 fps. Shaw succeeded, and

Greg MacGillivray’s statement

When [Imax founders] **Graeme Ferguson**, **Bill [Shaw]**, **Bob [Kerr]**, and **Roman [Kroitor]** created a new way of seeing movies in 1970, few people thought IMAX films would attract customers. Never before had short documentaries been worthy of a paying audience. So their first application of IMAX was for spectacular presentations at world’s fairs for free.

But when the audience walked in and watched this new experience, this new way of encountering a film story which was part film, part rollercoaster ride, it wowed them like no other film experience ever before. It felt *real*. It looked authentic and honest. It took you somewhere *believably*.

In this new way, combined with the most trusted institutions in the world, the museums, Imax had something that really clicked. The magical combination of 15/70 film, six-channel sound, a super-steady and bright \$1 million projector, steeply raked seats in museums, those elements picked you up and transported you believably. And right then, a \$20 billion industry was born. Out of the word “wow.”

Today, small digital capture, fast-paced editing, and TV-style composition could not deliver the “I-am-there” experience. Filmmakers and theater directors must understand why customers came and loved IMAX initially, and not forget the “wow.” And that is the purpose of this session.

it allowed MacGillivray to film skier **Maria Walliser** in extreme slow-motion.

Low's last clip was an extended aerial sequence from *Rocky Mountain Express* that he described as "a really interesting mix of documentary and drama, in the sense that we had no control over the steam engine at all. It was on a tight schedule and running on a main line, and it cost \$100,000 a day just for the track time. So they weren't going to slow down or speed up for us." After shooting each three-minute load of film, the helicopter would have to land to reload the camera, possibly refuel, then try to find the train again. "We were flying in a national park, and we weren't allowed to, so we had to hide in the woods so the rangers wouldn't see us, and then try to find the train from our hiding place in the woods."

In contrast to most of the rest of the shots in the session, MacGillivray recounted the unplanned luck he had in shooting *To the Arctic*. After four shooting expeditions in Svalbard, Norway, he went back for one final trip, and happened to find a mother polar bear with two cubs, that, unlike the other polar bears they had tried to film, didn't run away from the icebreaking ship he was on. His crew filmed her for five days, shooting 40,000 feet of film and capturing a wide variety of behaviors that provided a powerfully emotional conclusion to the film.

The session concluded with a rousing clip from 1991's *Rolling Stones at the Max*, which involved shooting with eight IMAX film cameras, the most that had ever been brought together on one shoot. Myers said the project required "the motherlode of photography talent," including cinematographer **David Douglas**, who was present in the theater. Although some preparation and choreography was possible, the camera operators had to be prepared to capture whatever the musicians decided to do, as when **Mick Jagger** climbed over the edge of the stage to shake hands with audience members, right in front of the tracking camera **James Neihouse** was operating.

Explaining to Ferguson how the Stones were persuaded to make the film, Low said that, before the band signed on, he had been asked by producer **Andre Picard** to

talk to Jagger about which IMAX films he'd like to see. "I was very cognizant not to offer my films, because IMAX had the Space Shuttle [films]. So I went through this stuff with him, and he went, 'No, I don't want that. No I don't like the Space Shuttle.' I got down to the end of [the list], and I said, 'Beavers.' And Mick Jagger said, 'That's what I want to see!'"

Low screened *Beavers* for the Stones and their entourage in Rotterdam in the middle of the night, after a concert. Afterward, "I got up, and was going to say something, and Mick Jagger said, 'Don't say anything. We're going to do this film.' So it was *Beavers* that did it."

Awards announcements

For the first time in recent memory, the association's film and marketing awards were not presented in a fancy ceremony. Instead, in a cost-saving move, the winners were simply announced at the opening reception. They were:

IMAX Maximum Image Awards

Best IMAX Booth, Film: **McWane Science Center**, Birmingham, Alabama

Best IMAX Booth, Digital: **Cinema City IMAX Krakow**, Krakow, Poland

Hall of Fame Award: *Space Station 3D*

Special Recognition by GSCA and IMAX Corporation:

Projectionists **John Gifford** (Ontario Science Center) and **Peter Herb**, Michigan Science Center

Big Shoe Award, selected by GSCA staff to recognize exemplary volunteers:

Paul Fraser and **Alvis Wales**

GSCA Marketing Awards

Big Idea Award: **National Geographic Studios, Jerusalem**

Best Educational Program: **Omniversum**, The Netherlands, *Journey to Mecca* Educational Program

Best Marketing Campaign by a Distributor: **MacGillivray**

Freeman Films, Imax Corporation, *Journey to the South Pacific*

Best Film Launch by a Theater: **Saint Louis Science Center**, *D-Day: Normandy 1944*

GSCA Film Awards

Best Film, Feature Length: *Gravity: An IMAX 3D Experience*

Best Film for Lifelong Learning: *D-Day: Normandy 1944*

Best Original Score: *D-Day: Normandy 1944*

Best Sound Design: *D-Day: Normandy 1944*

Best Visual Effects: *D-Day: Normandy 1944*

Best Film, Short Subject: *Jerusalem*

Best Cinematography: *Jerusalem*

Next GSCA events

The GSCA will hold its Film Expo and Filmmaker Symposium March 9-11, 2015, in Los Angeles, at the **AMC Universal CityWalk IMAX**. The Filmmaker Symposium, on March 11, "will feature hands-on opportunities for those involved in production and postproduction to learn more about the technology and techniques that are unique to the giant screen format," according to the association.

The fall conference and trade show will be held in San Francisco, at the **AMC Metreon IMAX**, Sept. 9-11. Dome Day will be at the **Tech Museum** in San Jose, Sept. 12.



Catherine and Pascal Vuong's D-Day won several awards.

Graeme Ferguson on the Future of Film

In late August we asked a number of GS industry leaders to give their opinions about the future of film. The results were published in the September issue. Graeme Ferguson, filmmaker and co-founder of Imax Corporation, told us then that he would prefer to wait until he had seen the laser system demonstrated at the Giant Screen Cinema Association conference in Toronto in September. Shortly after that, he spoke to LF Examiner's James Hyder.

Graeme Ferguson: You wanted to talk about where we are in technology transition from film to digital and the pace at which we're going. It was useful [to see the laser demo at the GSCA conference]. I thought a bit about the past overnight, and the thing that struck me was how few major inventions there have been in creating the giant screen, IMAX, or whatever you want to call it, and how sporadic they have been.

The ones I thought about were the initial breakthrough, where we said we need to make a giant-screen theater and films. So we came up with the format that was three times bigger than normal 70mm. That seemed like a good jump.

To do that, as I've said to you before, we needed about three breakthroughs. And miraculously, we got them all at the right time. One was we needed a new film transport because the Geneva movement [used in many 35mm projectors] had run out of steam by that size. Then the rolling loop came along. [Australian inventor] **Ron Jones** had come up with a brilliant invention, but it didn't work for large format. But [IMAX engineer] **Bill Shaw** added the deceleration pins, and that was the key thing in his patent. And between the two, they solved the film transport.

Another thing was we needed a much brighter light. In those days, the norm for 70mm projection was five kilowatts, and I think there had been some that went to seven kilowatts. We found with the short-arc xenon lamps, water cooled, that we could go to 30 kilowatts. At first we went to 25, and then we designed a better lamphouse that made it more efficient, and

we found we could do the job at 15 kilowatts. But still, it was about a threefold increase in the light, which was exactly what we needed.

Nobody had ever done wide-angle projection lenses. Nobody really knew how. I went to several lens designers and manufacturers, and they turned me down. And lo and behold, [optical company] **Ernst Leitz** in Canada had **Walter Mandler** as their lens designer, and he said, "I've just figured out how to do such a lens."

The rolling loop allowed us to use a field flattener, so the film could be held against the field flattener by a vacuum, which meant that instead of fluttering, the way 35mm projectors always did, we were able to hold the film in place. So for the first time ever we had really wide-angle projection.

Then our final breakthrough was finding **Jan Jacobsen** to design the camera. It had never occurred to us that he could actually build a 15-perf, 65mm camera. We thought we would use 8-perf and blow it up optically. But he said, "No, I can make you a 15-perf camera." And he did. That was Mark I, and then Bill designed a new movement for it the following year. So for *North of Superior* we had the Mark II. And of all things, people are still renting Mark IIs. So that's nearly 50 years ago.

That was about five or six inventions that serendipitously turned up, some of which our people did and some of which, like the lens, just came out of the blue.

So anyway, I've been thinking, what happened in the last 50 years?

I'll talk first about film. In cameras there has been almost no real invention. The only real invention was **Marty Mueller's** design for the 30-perf camera that allowed us to shoot 3D on the Space Station.

Another was dome 3D projection, which interested us greatly, and in which we were pioneers. I went out to the Naval Undersea Warfare Center in San Diego where liquid crystal glasses — active glasses, as they're called now — had just been invented for the U.S. Navy. [They were es-

sential] for the 3D dome, which we called **Solido**. [Also for Solido,] we built the first twin-rotor projector, and it had a very ingenious system that allowed it to have two 15-kilowatt lamps in it.

Another invention which was not ours at all, is now called HFR, high frame rate. **Doug Trumbull** came up with that in about '74 or '75.

The final thing that I can think of, in terms of invention, was IMAX DMR. I think that is a genuine invention and essentially made it feasible to shoot a feature film with a conventional 35 camera, and show a version in an IMAX theater that was remarkably close to 15/70. It wasn't [quite] there, but it was a very useful invention, and it changed the economics of the industry.

That's — what? A total of about another five or six inventions since the initial ones.

LFX: Right, 10 or 12.

GF: That's over about 45 years. So it's pretty thin gruel. They don't come flying at you with great frequency. It kind of gives you a sense of how to predict the future. The first thing you would say about the future is that it's not going to come as fast as everybody thinks it is.

I saw my first demonstration of a TV projection system, with the three lenses, in Cambridge, Massachusetts, about 1974. That's 40 years ago. [Digital projection] has now become standard, but only in the last ten years. The interesting thing about that was not that it was a gigantic improvement for the filmmakers.

The Achilles heel of the 15/70 system was the cost of prints. It was just straight an economic decision. Nobody asked filmmakers what they wanted to do. They just said, "We'll put in a system where the films are much cheaper."

The only other thing in digital I'm aware of that's an invention is laser. That was what I wanted to see at the GSCA [conference]. I thought that the Christie system, for that kind of theater and that size screen, is excellent.

There's definitely a trend to digital. But the rate of progress is sporadic and unpredictable. You have a lot of innovations

(from *GSCA* on page 10)

that make small improvements, but what we need is every now and then a really good invention, either done by insiders or by somebody who's doing some totally different thing, and you can adopt the technology.

Just dividing it up between projectors and cameras and the processing that goes between, the projectors have already gotten there, and it looks like the next thing will be an IMAX laser projector that we hope will really do the job with the proper big screen.

In terms of cameras, so far as I can see, everything that is being done is inadequate. A lot of money and effort has been put into it, but it's quite a long way short. You have to look at the whole thing as a system. The difficulty with the [Bring Back Our Wide Shots, *see page 7*] demo we saw with cameras is they were very careful to point out that they hadn't done any post adjustments, and every one of the manufacturers said, "You've got to do that step."

Unlike film cameras, [digital] cameras are really just the beginning of a rather complex chain of steps. The people who have moved into it have been quite surprised at how many variables there are. If I were a filmmaker trying to choose a camera to use, I would need to know what it looks like when it comes out of the camera, sure. But I really want to know what it looks like when it gets to the screen. Which means all of those steps in between.

I feel — I wouldn't say pessimistic — but very cautious about how rapidly all of that is going to get really user friendly. The whole system that we eventually need is — well, what was the number you quoted

that [David] Keighley wants? 15 or 16K?

LFX: He's said the 15/70 frame is the equivalent of between 12 and 15K.

GF: Okay, well, he knows more about it than I do, so I will accept that. At the moment, no part of the complete chain is anywhere near that. So the difficulty is, even if you suddenly produced a 12K or 15K projector, if the cameras can't do it and the processing in between can't do it, you've got a bottleneck. And that bottle-



Imax co-founder Graeme Ferguson with some of his many friends at the Technical Session in Toronto. L to r: Mary Jane Dodge, David Keighley, Ferguson, Diane Carlson, Valentine Kass.

neck defines the quality.

To go back to film, the best quality we could ever get was [to shoot with] a 15/65 camera, take the negative, make an [interpositive] for protection, and print it onto a print, and show that direct print. That's what **Greg McGillivray** kept doing years and years. We [at Imax] had given up years before when we accepted printing from an [internegative]. Anybody can see there's a loss of quality doing that. It's still very much better than just about anything else around. But if you want to get something that looks like McGillivray's shooting at its best, that would be the absolute best. Even if you go through an IP and an IN, you put a small bottleneck that reduces the quality.

Digital is just full of that sort of thing.

An example was that on [2010's] *Hubble 3D*, we had the 30-perf camera in the cargo bay, and when you saw the footage, it looked very nice. But by the time it had gone through all of the steps and was incorporated into the final film, if I remember correctly, our bottleneck was 5.6K. So if anything was shot better than that, that was the [final] quality, 5.6K.

That's the inherent problem still. For quite a while in the future, I fear, there will be a bottleneck at every level. But the worst ones are very likely in the processing procedures, maybe in the cameras. Choose any number you wish, choose 8K, and there isn't a consistent way of using 8K from capture to showing. Choose 6K and you can't do it. Choose 4K and you can maybe just barely do it.

I think we're going to get through it, but we're going to get through it quite slowly, I'm afraid. A couple more things. I've made it sound as if film is really good, and digital isn't, but film cameras have their failings. The processes, the intermediates, the opticals, all have their problems. I don't think we should treat this as if film is wonderful. Film is expensive, it's heavy, it's hard to get into space. It's hard to get a long take underwater.

With 65mm film, it's impossible to get long takes that are really comfortable for the actors and director. It's got all kinds of flaws, but we're used to them, I guess, and that's something. But in most of those areas, digital's way better. You can run the camera forever. You could have the actor redo the scene several times. You can wait until the underwater animal does what you were hoping, and all those things. So it's got lots of merits.

LFX: No camera noise.

GF: Yes, that's a big thing. Back to
(*see FERGUSON on page 19*)

New Films

Antarctica 3D: On the Edge Giant Screen Films Release Date: 9/1/2014 Format: 3D Length: 40 min.	Antarctica is the most remote and forbidding continent on earth. A huge land, covered in ice, it is also a fragile place, home to an incredible variety of life. But the 900-mile-long peninsula that juts out from the continent is changing faster than anywhere else on the planet. These changes at the most remote corner of Earth could usher in profound ecological and political consequences for both wildlife and humans around the world. <i>Antarctica 3D: On the Edge</i> will explore this one-of-a-kind place and the wildlife (and a few humans) that call it home.	Naya, Legend of the Golden Dolphin Magic Factory Productions Inc. Release Date: 2014 Format: 3D Length: 40 min.	The beauty and adventures of dolphins are documented in the oceans of South Africa, New Zealand, Canada, Mozambique, Australia, Bimini, Hawaii, and in the Amazon River of Brazil in this 3D documentary. Narrated by Kate Winslet, Gerard Butler, Quvenzhané Wallis, Owen Wilson, Megan Fox, Ellen Page, Julian Lennon, Diego Luna, Cheech Marin, Whoopi Goldberg, Daryl Hannah, Isabella Rossellini and James Franco. The soundtrack features the music of the Rolling Stones, John Lennon, the Everly Brothers, K.D. Lang, and Iz.
Antarctica's Penguin Emperors K2 Communications Release Date: 2014 Format: 3D Length: 37 min.	This family-friendly film was shot on location in Antarctica, the southernmost region on the planet. The story follows a colony of emperor penguins as they emerge from the sea and begin their long march 60 miles inland during the cold winter in a race to provide food for their newly hatched chicks. This true-life tale will warm the hearts of audiences as they witness the hardships and sacrifices of these curious creatures in their fascinating triumph over the elements.	Panama Canal 3D Large Screen Cinema Release Date: 2014 Format: 3D Length: 40 min.	<i>Panama Canal 3D: A Land Divided, A World United</i> reveals the canal's vast scope, plunging into the locks and mechanical operations, boarding the giants that sail through it, gliding airborne over the country's tropical rain forest and wildlife. The film sweeps in time from the days of the Conquistadores as they struggled through a water-soaked quagmire to cross the Isthmus of Panama, to the 19th-century French canal-digging debacle, to the American engineering achievement, and documents today's efforts by Panama to expand the 100-year-old waterway to accommodate post-panamax ships.
Aviation: The Invisible Highway Terwilliger Productions Release Date: 1/31/2015 Format: 2D Length: 47 min.	<i>Aviation: The Invisible Highway</i> shows how the airplane has changed the world. Not long ago traveling between continents meant migration. Now, on any given day, 50,000 planes transport people and things between distant points on Earth in hours. Filmed in 18 countries across all seven continents, <i>The Invisible Highway</i> explores the countless ways aviation affects our lives, even when we don't fly, renewing our appreciation of one of the most extraordinary and awe-inspiring aspects of the modern world.	Pandas: The Journey Home Oxford Scientific Films Release Date: 4/30/2014 Format: 3D Length: 40 min.	Join us as we travel to the mystical Wolong Valley in China and venture behind closed doors at the Research Centre for the Wild Panda. With unprecedented access, Oxford Scientific Films reveals the secrets of panda breeding and discovers that the Chinese are on the brink of achieving an extraordinary environmental turnaround.
D-Day: Normandy 1944 N3D Land Production Release Date: 3/31/2014 Format: 3D Length: 44 min.	June 6, 1944: The largest Allied operation of World War II began in Normandy, France. From the end of 1943 through August 1944, this region became the most important location in the world. Blending animation, CGI, and stunning live-action images in 3D, <i>D-Day 3D: Normandy 1944</i> brings this monumental event to the world's largest screens for the first time, exploring history, military strategy, science, technology, and human values. Narrated by Tom Brokaw.	Remnants Sky-Skan Europe GmbH Release Date: 7/1/2014 Format: 3D Length: 35 min.	Before the invention of the written word, the people of the Neolithic civilization of Europe constructed ever more complex stone monuments. Their reasons are unclear to this day, and the people have vanished largely without trace. <i>Remnants</i> utilizes stylized motion-controlled time-lapse to explore their extraordinary achievements, capture the austere beauty of these "Megalithic" sites, suggest rationales for their being, and pose an important question: History has proved no civilization can last indefinitely. Will we share the same fate?
Dark Universe American Museum of Natural History Release Date: 10/1/2014 Format: 3D Length: 24 min.	Now released in 3D for giant screens, the American Museum of Natural History's <i>Dark Universe</i> celebrates the discoveries that have led us to greater knowledge of the structure and history of the universe—and to new frontiers for exploration. Narrated by Neil deGrasse Tyson, it reveals the breakthroughs that have led astronomers to confront two great cosmic mysteries: dark matter and dark energy. <i>Dark Universe</i> was developed in collaboration with the California Academy of Sciences, San Francisco, and GOTO INC, Tokyo.	Secret Ocean 3D 3D Entertainment Films Ltd. Release Date: 3/31/2015 Format: 3D Length: 40 min.	<i>Secret Oceans 3D</i> will invite audiences to explore and understand the food chain from the phytoplankton to the largest animals. Using special 3D macro photography jointly developed by the Cousteau and 3D Entertainment Films teams, viewers will discover a world too small to be seen by the human eye.
Deepsea Challenge 3D Lightstorm Entertainment Release Date: 1/31/2015 Format: 3D Length: 40 min.	<i>Deepsea Challenge</i> follows the dramatic story of Academy Award-winning director James Cameron's personal odyssey as he undertakes an expedition of historic proportions and extreme personal danger to the ocean's deepest point.	Soldiers' Stories Kallisti Media Release Date: 7/28/2014 Format: 3D Length: 30 min.	<i>Soldiers' Stories</i> explores the mental and physical toll that battle takes on individuals and society. Told through the eyes and words of real soldiers, the film knits together modern soldiers with World War I by telling the "grunt eye" view of what being a soldier is all about. The film features painstakingly restored 3D images from the time and narration by Academy Award-winning veteran actor Mickey Rooney. The film is available for short-term rentals for Veteran's Day and in all formats, including 15/70mm.
Great Apes 3D Visionquest Entertainment International Pty Ltd Release Date: 5/9/2014 Format: 3D Length: 45 min.	<i>Great Apes 3D</i> brings us face to face with some of the world's rarest and most extraordinary primates: chimpanzees, bonobos, orangutans, and mountain gorillas. Holly Carroll, a passionate zoologist, explores the dense rainforests and remote jungles of Africa and Indonesia to study the lives of these intelligent and curious animals, capturing the emotional connection we all have to the great apes and uncovering the challenges they face in an increasingly threatened habitat.	Star Spangled Banner: Anthem of Liberty Maryland Science Center Release Date: 6/14/2014 Format: 3D Length: 20 min.	<i>Star-Spangled Banner: Anthem of Liberty</i> celebrates the bicentennial of the heroic defense of Fort M'Henry and the writing of our National Anthem. While briefly recreating the burning of Washington, its primary focus is on the historically crucial events in and around Baltimore in September 1814. The film is available in both IMAX 2D and digital 3D.
Island of Lemurs: Madagascar Warner Bros. Release Date: 4/4/2014 Format: 3D Length: 40 min.	Academy Award winner Morgan Freeman narrates <i>Island of Lemurs: Madagascar</i> , the true story of nature's greatest explorers: lemurs. Captured with IMAX 3D cameras, the film takes audiences on a spectacular journey to the remote and wondrous world of Madagascar. Lemurs arrived in Madagascar as castaways millions of years ago and evolved into hundreds of diverse species, but are now highly endangered. Join scientist Dr. Patricia Wright on her lifelong mission to help these strange creatures survive in the modern world.	Tiny Giants 3D BBC Earth Release Date: 5/23/2014 Format: 3D Length: 40 min.	Using the immersive power of specialist 3D cameras, audiences will experience the titanic battles tiny creatures face to survive. Facing experienced rivals and huge predators, a chipmunk in a wild wood must find courage to gather enough nuts for winter. Forced out of the family home in Arizona's scorched desert in a coming-of-age ritual, an adolescent grasshopper mouse needs to learn the skills to survive. Only by using their ingenious "superpowers" can our heroes not only stay alive but also become masters of their universe.
Journey to the South Pacific MacGillivray Freeman Films, Inc. Release Date: 11/27/2013 Format: 3D Length: 40 min.	Narrated by Academy Award winner Cate Blanchett, <i>Journey to the South Pacific</i> takes moviegoers to the remote tropical islands of West Papua, where life flourishes above and below the sea. Join Jawi, a young island boy, as he encounters whale sharks, sea turtles, and giant manta rays. Home to more than 2,000 species of sea life, this exotic locale features the most diverse marine ecosystem on earth. <i>Journey to the South Pacific</i> highlights the importance of living in balance with the ocean planet we call home.	Walking With Dinosaurs: Prehistoric Planet 3D BBC Earth Release Date: 7/1/2014 Format: 3D Length: 40 min.	Spin back in time to an extraordinary prehistoric world: Alaska in the Cretaceous period, 70 million years ago—the last great flourish of the dinosaur era. We invite you to come on a journey through the seasons and experience the life of dinosaurs fighting, feeding, migrating, playing, and hunting. With the most ambitious CGI visuals, this film reveals the story behind the lives of the dinosaurs and the challenges they faced in a constant battle for survival.
Life of Trees, The Softmachine Release Date: 2/7/2014 Format: 3D Length: 33 min.	A cheeky ladybug called Dolores and a quirky firefly called Mike take the audience on a journey of exploration into the world of trees. Taking the perspective of insects, the full-dome film reveals the magic of the microcosm. These two creepy-crawlies zip around a tree, and in doing so, playfully learn its secrets: How do plants get food from the sun? How do they grow? And how does all this make life on our earth possible?	Watermelon Magic Spring Garden Pictures Release Date: 10/31/2013 Format: 3D Length: 40 min.	This nearly wordless burst of color and music draws inspiration from film classic <i>The Red Balloon</i> . <i>Watermelon Magic</i> chronicles a season on the family farm as young Sylvie grows a patch of watermelons to sell at market. Constructed entirely from high-resolution still photos, this film employs a dynamic style of varying shutter-burst frame rates with stunning time-lapse sequences. Young and old audiences can witness the elementary scientific concepts of the life cycle of plants, observing their journey from seed to flower to fruit.
Mysteries of the Unseen World National Geographic Studios Release Date: 11/1/2013 Format: 3D Length: 40 min.	<i>Mysteries of the Unseen World</i> will allow viewers to see things not visible to the naked eye thanks to high-speed and time-lapse photography, electron microscopy, and nanotechnology. The audience will be taken into the microscopic world once reserved for scientists to see a whole new universe of things, events, and creatures. Rooted in cutting-edge research, <i>Mysteries of the Unseen World</i> will be available in 3D and 2D, 15/70 and digital formats.	Wonders of the Arctic Science North Release Date: 3/6/2014 Format: 3D Length: 40 min.	The Inuit have thrived for thousands of years in what is arguably the harshest environment on earth, the Arctic. Today, scientist pioneers are searching for answers to troubling questions about the impact of human activities around the world on this fragile frontier. The stories of our many forays into this captivating place are interwoven to create a unifying message about the state of the Arctic today. Underlying it all is the crucial role that ice plays in the northern environment and the changes that are quickly overtaking its people and animals.

Films in Production

America Wild: U.S. National Parks MacGillivray Freeman Films, Inc. Release Date: 8/31/2015 Format: 3D Length: 40 min.	The U.S. National Park Service turns 100 years old in 2016, marking a major milestone in the preservation of America's wild, pristine spaces. Iconic landmarks such as Yellowstone, Yosemite, the Everglades, and Glacier National Park represent the heritage and spirit of America and make a rich palette for a giant screen film. <i>America Wild: U.S. National Parks</i> (working title) brings the magnificence of these landscapes to the giant screen and introduces us to compelling individuals who live in, explore, or work in these great places.	Magic of Wild Africa 3D, The BBC Earth Release Date: 2015 Format: 3D Length: 40 min.	Come with us on a 3D ride across, over, and through the most dramatic continent on earth: Africa. Our guide through this enchanted kingdom is the sorcerer itself—water. Water conjures up life wherever it journeys—traveling above the plains on seasonal winds, cascading along raging rivers or sheltering coral cities. Audiences will discover how spectacular thermal geysers help turn thousands of flamingos pink; why heat beating down on waterless dunes in the Namib desert forces a lizard to dance; why it snows on the equator.
Blue Whale Journey 3D 3D Nature Films Release Date: 2015 Format: 3D Length: 40 min.	Soaring in submersibles through the cavernous waters of the deep, cameras travel for the first time to the graveyard of the majestic blue whales, circling through the massive tunnel of ghostly skeletal bones and revealing a journey that has occurred for over 40 million years. We see these magnificent mammals entertain with their antics, interact with the pods, and follow their cycle of life. In one of the grandest examples of evolution, paleontologists uncover proof of the whales' transition from land to the sea in the fossilized remains across the oceans and in the blowing sands of a massive desert tomb.	Museum Alive 3D Atlantic Productions Release Date: 2015 Format: 3D Length: 40 min.	When the doors of the museum close for the night, one lucky visitor stays behind and fulfills the dream of a lifetime as long-extinct creatures break out of their display cases and come alive. <i>Museum Alive 3D</i> uses this playful conceit to bring exhibits such as the massive dinosaur Diplodocus, top mega-predator Smilodon, and the mysterious Gigantopithecus to life, illustrate their behavior and explain how they lived. <i>Museum Alive 3D</i> combines fun with hard facts derived from a collaboration between leading scientists and the film's VFX artists.
Dream Big: Engineering Wonders of the World MacGillivray Freeman Films, Inc. Release Date: 2/1/2016 Format: 3D Length: 40 min.	<i>Dream Big</i> will bring today's greatest engineering marvels to the giant screen—from record-reaching skyscrapers to bridges soaring above the clouds to giant tunnel-boring machines navigating beneath our cities. Audiences will discover how imagination and human invention—even failure—turn ideas, dreams, and human needs into reality. All around the world engineers are pushing the limits of ingenuity and innovation in unexpected, amazing, and forward-thinking ways. The film, together with its outreach programs, will tell the story of how engineers use science and technology to build, invent, design, and shape our world.	Oceans of Sanctuary 3D Nature Films Release Date: 3/31/2016 Format: 3D Length: 40 min.	Underwater parks, also known as marine protected areas, may be the oceans' single greatest hope. These treasured aquatic habitats are vital to sustaining a healthy ocean environment and provide us with destinations of adventure and exploration. From stunning coral reefs to thick kelp forests, from valued fisheries to underwater archaeological sites filled with shipwrecks, they provide refuge and migratory routes for numerous endangered and threatened species.
Earthflight 3D BBC Earth Release Date: 2015 Format: 3D Length: 40 min.	<i>Earthflight 3D</i> takes the audience on an incredible flight across the world on the wings of birds. Revolutionary aerial techniques and state-of-the-art 3D cameras fly wingtip to wingtip with some of the world's most charismatic birds. As birds time their seasonal journeys to coincide with some of the most intriguing events in nature they become immersed in great animal migrations, strange animal happenings, and awe-inspiring landscapes. Through the eyes of birds, <i>Earthflight 3D</i> shows the spectacles of our planet as never before.	Predator 3D BBC Earth Release Date: 3/31/2016 Format: 3D Length: 40 min.	<i>Predator</i> tells the story of the contests between predators and their prey, showcasing how these supreme species have to be at the peak of performance to have any chance of success. Using new high-resolution thermal cameras, <i>Predator</i> reveals the stealth of the leopard and captures the polar bear in action, following the bears into the midst of the pack ice as they hunt for bearded seals. With dramatic animal behavior, spectacular scenes and aerials, the film reveals the unique relationship between the planet's predators and prey.
Global Soundscapes Foxfire Interactive Corporation Release Date: dsf Format: 3D Length: 40 min.	Foxfire Interactive, Masters Digital, and Purdue University present <i>Global Soundscapes</i> . Dramatic footage and immersive soundscapes are enhanced by an onstage presenter/ demonstrator who takes the audience into the exciting new field of soundscape ecology. Experience basic acoustics through interactive activities and slow motion footage of pulsating musical instruments, vibrating vocal cords, and slobbering raspberries. Discover how soundscape ecology can be used to assess the biodiversity and health of global ecosystems.	Road to Paradise Huwa Golden International, Inc. Release Date: 2015 Format: 3D Length: 40 min.	The Qinling Mountains of China are home to multiple species of endangered wildlife, such as the giant panda, and over a thousand species of plants, making it one of the most biodiverse areas in China. Huayang, a millennium-year-old farming community, matches its surroundings in its cultural richness. With China's flourishing tourism industry, the area has attracted thousands of visitors and brought attention and prosperity to its residents. <i>Road to Paradise</i> (3D) depicts the efforts of the Huayang people to preserve this harmonious state of co-existence in the face of arising commercialization and conflicting interests.
Humpback Whales MacGillivray Freeman Films, Inc. Release Date: 2/1/2015 Format: 3D Length: 40 min.	<i>Humpback Whales</i> is the story of nature's most fascinating marine mammal. Captured for the first time with IMAX® 3D cameras, the film takes audiences into the whales' world for a close-up look at how they communicate, sing, feed, play, and take care of their young. Found in every ocean on Earth, humpbacks were nearly driven to extinction 50 years ago, but are making a remarkable comeback. Join researchers in Alaska, Hawaii, and the Kingdom of Tonga as they celebrate the return of these giants of the sea. Presented by Pacific Life.	Robots National Geographic Studios Release Date: 4/30/2015 Format: 3D Length: 40 min.	Humans do amazing things, all the time, without even thinking. It takes 34 muscles to move your fingers and thumb and more than 80 billion neurons to think. Humans use 300 muscles just to stand still! Imagine trying to build a machine that can move like a human, think like a human, or even simply stand still like a human. <i>Robots 3D</i> will explore the building of state-of-the-art humanoid. You'll meet the leading humanoids of today, many of which are performing previously unimaginable tasks such as walking, talking and thinking.
Interstellar Paramount Pictures Corporation Release Date: 11/4/2014 Format: 2D Length: 120 min.	Directed and written by Academy Award-nominee Chris Nolan (<i>Inception</i> , <i>The Dark Knight Rises</i>), <i>Interstellar</i> is based on a script by Jonathan Nolan. The film will be produced by Emma Thomas and Christopher Nolan of Syncopy Films and Obst of Lynda Obst Productions. Kip Thorne will executive produce. The film will depict a heroic interstellar voyage to the furthest reaches of our scientific understanding.	Space Next 3D Afterglow Studios Release Date: 5/30/2015 Format: 3D Length: 40 min.	<i>Space Next</i> takes us on mankind's journey to reach the stars. Beginning with the earliest dreams of building machines to take us into flight, the film explores the impact of war on the development of technology, and the space race that inspired generations and the inventions that have changed the world. Now the end of NASA's shuttle program brings the question of what's to come. <i>Space Next</i> looks to inspire a new generation to once again look to the stars, exploring the possibilities of what's to come.
In Saturn's Rings SV2 Studios Release Date: 2014 Format: 2D Length: 44 min.	Over one million photographs from space missions and historical sources, all animated to full motion, take audiences from the Big Bang to the awe-inspiring rings of Saturn. <i>In Saturn's Rings</i> uses images from Cassini-Huygens, Apollo, Voyagers 1 & 2, Hubble, Solar Dynamics Observatory, Messenger, and Lunar Reconnaissance Orbiter. Leading astrophotographers have contributed 500,000 photographs of the night sky, including the highest resolution multi-day time-lapse of the Milky Way ever photographed. The result is the closest experience to flying through space and time possible without a personal spacecraft.	Wild Flight 3D Atlantic Productions Release Date: 4/1/2016 Format: 3D Length: 40 min.	It's a miracle of nature 300 million years in the making: the ability to fly through the air, using flesh, bone, muscle, and feathers to glide, soar, hover, and dive and so conquer the realm above the Earth. But how did animals first launch themselves into the skies? And why is there such a variety of flying styles and abilities? <i>Wild Flight 3D</i> will show the science behind the beauty and spectacle, using sequences of birds, reptiles, insects, and mammals filmed around the globe, combined with the latest visual effects and camera techniques.
Journey to Space: A Shuttle Adventure 3D Giant Screen Films Release Date: 2/1/2015 Format: 3D Length: 40 min.	<i>Journey to Space: A Shuttle Adventure in 3D</i> will celebrate what shuttles have contributed to the global advancement of space exploration, illustrating how the shuttle helped to provide the foundation for our next planetary space race and for humankind's first visit to Mars. The opening act for the trip to the Red Planet will be the capture and relocation of a nearby asteroid. For many of us, this will all happen during our lifetime.	Wingsuit Flyers Grand Schema Release Date: 2015 Format: 3D Length: 40 min.	Soar with the world's premiere wingsuit pilots, Jeb Corliss and Joby Ogwyn, as they fly "around the world" their way, seeing incredible sights, sounds and cultures. Humans have always wanted to fly without assistance, like winged life that calls the sky home. Witness these adventurers as they fly in some of the most exotic places on the planet, including Mount Everest, Switzerland's Jungfrau rock face, Dubai's Burj Khalifa high rise, South Africa's Drakensberg, and even among New York's high-rises.
Life In Space December Media Release Date: 1/31/2016 Format: 3D Length: 40 min.	A new era of space exploration has begun—the search to find life somewhere else in the universe. NASA is breaking ground in a new science, Astrobiology. We know life in space exists, because that's what we are, as are all things that live on our planet. <i>Life In Space</i> takes us from the depths of the Pacific Ocean to Europa, the ice moon of Jupiter, back in time to when Mars was a virtual Eden, and into the far reaches of space in search of planets like ours. It examines such fundamental questions as: "Where did we come from?" "How did we get here?" and "Are we alone?"	Zero Gravity La Vingt-Cinquieme Heure Release Date: 2/28/2015 Format: 2D Length: 40 min.	With the International Space Station ISS, mankind's ancient dream to leave our planet and conquer space has come true. It is the greatest technological project ever imagined. The ESA astronaut Alexander Gerst will be the third German to travel to the ISS. With his NASA colleague Reid Wiseman he launched in May 2014 from Baikonur to spend six months in space. Over six months they will film their mission for the 4K documentary <i>Zero Gravity—Mission in Space</i> . The ISS is a powerful symbol of cooperation between nations.



All films are 3D unless noted, underlined titles are 2D

* New listing.

Updated information is printed in **bold**.

Unless noted, all films will run about 40 minutes. Some titles with limited release territories are not listed.

The Hobbit: The Battle of the Five Armies

WingNut Films; distributor: Warner Bros.; director: Peter Jackson. Cast: Elijah Wood, Cate Blanchett, Hugo Weaving, Stephen Fry, Benedict Cumberbatch, Martin Freeman, Ian McKellen, Andy Serkis. Release: Dec. 17. DMR.

In Saturn's Rings

SV2 Studios; distributor: BIG & Digital; director, producer, writer, executive producer: Stephen van Vuuren. 2D. Release: 2014.

Panama Canal 3D: A Land Divided, a World United

Large Screen Cinema; distributor: tba; director: Keith Melton; producer: Gordon Bijelonic; associate producer: Jeffrey Kirsch; DP: Reed Smoot. Narrator: Morgan Freeman. Release: tbd.

- August: Narration recorded with Morgan Freeman.
- Film is complete and was shown at the GSCA conference in Toronto.

Deepsea Challenge 3D

Earthship Productions; distributor: National Geographic; directors: John Bruno, Andrew Wight, Ray Quint; producers: Andrew Wight, Brett Popplewell; script: Andrew Wight, John Garvin; DPs: Jules O'Loughlin, John Stokes; score: Ricky Edwards, Brett Aplin, Amy Bastow; executive producers: James Cameron, Lisa Truitt, Maria Wilhelm, Mikael Borglund; narrator/cast: James Cameron. Release: January 2015.

Jupiter Ascending *

A destitute young woman is targeted for assassination by the Queen of the Universe, and begins her destiny to finish the Queen's reign.

Village Roadshow; distributor: Warner Bros.; directors: Andy Wachowski, Lana Wachowski. Cast: Channing Tatum, Mila Kunis, Sean Bean, Douglas Booth, Terry Gilliam. Release: Feb. 6. DMR.

Humpback Whales (wt)

MacGillivray Freeman Films; distributor: MacGillivray Freeman Films; director: Greg MacGillivray;

producer: Shaun MacGillivray; script: Stephen Judson; DPs: Brad Ohlund, Howard Hall, Greg MacGillivray, Ron Goodman; score: Steve Wood. Release: February 2015.

Journey to Space: A Shuttle Adventure (wt)
K2 Films, Giant Screen Films; distributor: K2, Giant Screen Films; writer, director: Mark Krenzien; DP: Sean Phillips. Cast: astronauts Chris Ferguson, Sere-na Aunon. Release: February 2015.

- July-August: Filmed in Los Angeles, Las Vegas, and Washington, DC.
- Principal photography wrapped in late August.

Secret Ocean 3D (wt)

Ocean Futures Society; distributor: 3D Entertainment Distribution; director: Jean-Michel Cousteau; producers: François Mantello, Jean-Jacques Mantello; DP: Gavin McKinney; script: Pamela Stacey; score: Christophe Jacquelin. Cast: Jean-Michel Cousteau. Release: March 2015.

- Eight filming expeditions in Bahamas, Fiji, Bimini, California have been completed.
- Post production of 15/70 and dome versions under way.

Robots

National Geographic; distributor: National Geographic; director: Mike Slee; producers: Jini Durr, Brooke Runette; script: Richard Panek, Mike Slee; DP: Sean Phillips; executive producer: Lisa Truitt. Release: Spring 2015.

Avengers: Age of Ultron

Walt Disney Pictures; distributor: Walt Disney Pictures; director: Brad Bird. Cast: George Clooney, Judy Greer, Britt Robertson, Hugh Laurie, Kathryn Hahn. Release: May 1, 2015. DMR.

Tomorrowland

Walt Disney Pictures; distributor: Walt Disney Pictures; director: Joss Whedon. Cast: Aaron Taylor-Johnson, Elizabeth Olsen, Scarlett Johansson, Chris Evans, Hayley Atwell, Robert Downey Jr., James Spader, Chris Hemsworth, Cobie Smulders, Samuel L. Jackson. 2D. Release: May 22, 2015. DMR.

Jurassic World 3D *

The next episode in the *Jurassic Park* series, inspired by Michael Crichton's novel.

Universal Pictures; distributor: Universal Pictures; director: Colin Trevorrow. Cast: Chris Pratt, Judy Greer, Bryce Dallas Howard, Vincent D'Onofrio, BD Wong. Release: June 12, 2015. DMR.

Sea of Love

December Cinema Productions; distributor: tba. Release: Mid 2015.

America Wild: U.S. National Parks (wt)

MacGillivray Freeman Films; distributor: MacGillivray Freeman Films; directors: Greg MacGillivray, Shaun MacGillivray; producer: Shaun MacGillivray; script: Tim Cahill; DP: Brad Ohlund; score: Steve Wood. Release: late summer 2015

- Filming in summer, fall, and winter 2014

Oct '14	Jan '15	Jul '15
Drac JWick	Interst	Hobbit3
	DSC	HbWhal JTS
	ISR	SecrOc
	Pana	Robots
		AAOU Tomor
		JurWld
		SOL
		AmWild

Everest *

A drama based on the tragic events on Mt. Everest in the spring of 1996.

Universal Pictures; distributor: Universal Pictures; director: Baltasar Kormákur. Cast: Jake Gyllenhaal, Keira Knightley, Robin Wright, Josh Brolin, Sam Worthington, Emily Watson. Release: Sept. 18, 2015. DMR.

Crimson Peak *

Young author Edith Cushing discovers that her charming new husband is not who he appears to be. *Legendary Pictures*; distributor: Universal Pictures; director: Guillermo del Toro. Cast: Charlie Hunnam, Jessica Chastain, Tom Hiddleston, Mia Wasikowska, Doug Jones, Jim Beaver. 2D. Release: Oct. 16, 2015. DMR.

Star Wars: Episode VII

LucasFilm Ltd; distributor: Walt Disney Pictures; director: J.J. Abrams. Cast: Harrison Ford, Carrie Fisher, Mark Hamill, Andy Serkis, Oscar Isaac, Peter Mayhew, Max von Sydow. Release: Dec. 18, 2015. DMR.

African Safari 3D

nWave Pictures, Studio Canal; distributor: nWave Pictures Distribution; director: Ben Stassen; executive producers: Nadia Khamlichi, Adrian Politowski, Gilles Waterkeyn. Release: tbd.

Earthflight 3D

John Downer Productions, BBC Earth; distributor: BBC Earth, Giant Screen Films; Release: 2015.

- In post-production.

The Magic of Wild Africa 3D

BBC Earth, Reliance Entertainment; distributor: BBC Earth, Giant Screen Films; directors: Patrick Morris, Neil Nightingale; producers: Neil Nightingale, Myles Connolly, Amanda Hill; DPs: Mark Deeble, Robin Cox; executive producer: Deepak Nayar, Stuart Ford, Marcus Arthur, Mike Newell, Mike Devlin, Miles Ketley. Release: 2015.

- In post-production.

Museum Alive 3D

Atlantic Productions; distributor: tba; director: Daniel M. Smith; producer: Anthony Geffen; script: David Attenborough, Mike Davis; DP: Tim Cragg, Chris Parks; score: Ilan Eshker. Shot in 4K. Cast: David Attenborough. Release: 2015.

- Film was shot in 4K digital for British television. A 40-minute version for 15/70 and digital GS theaters is being prepared.

Patagonia 3D: Into the Wild (wt)

3D Entertainment Films; distributor: 3D Entertainment Distribution; directors/producers: François Mantello, Jean-Jacques Mantello; score: Christophe Jacquelin. Release: 2015.

Untitled Toni Myers Space Documentary

Imax Corporation; distributor: Imax Corporation; director/producer: Toni Myers; DP: James Neihouse. Release: 2015.

- September: IMAX hardware was launched to the

Everest CrimPk

SW VII

ECTA

WarCr

AfrSaf MOWA Patag
Earthfl MusAliv UTMSD

BTC Pred SOTU

MM3D SOTRG WildFI

- International Space Station.
– October: Shooting will begin.

Everest: Conquering Thin Air (wt)

MacGillivray Freeman Films; distributor: MacGillivray Freeman Films; director: Greg MacGillivray; producer: Shaun MacGillivray; script: Stephen Judson; DPs: Brad Ohlund, Michael Brown, Greg MacGillivray, Jack Tankard, Ron Goodman; score: Steve Wood. Cast: Jamling Norgay, Araceli Segarra. Release: February 2016.

Warcraft *

An epic fantasy/adventure based on the popular video game series.
Universal Pictures; distributor: Universal Pictures; director: Duncan Jones. Cast: Dominic Cooper, Travis Fimmel, Paula Patton, Ben Foster, Toby Kebbell. Release: March 11, 2016. DMR.

Behind the Cube

Radiant Images; distributor: tba; director, writer: Sean Phillips, producers: Brett Ratner, Bobby Mansouri, Michael Mansouri; DP Vilmos Zsigmond; executive producer: Brett Ratner. Release: Spring 2016.

- August: Filmed US National Rubik's Cube Championship competition at the Liberty Science Center in

- New Jersey.
– Fall: Filming in Washington state, San Francisco, Japan, London.

Predator

BBC Earth, Silverback Productions; distributor: BBC Earth, Giant Screen Films; director, producer, writer: Alastair Fothergill; DP: Jamie McPherson; executive producer: Neil Nightingale. Release: Spring 2016.
– Summer 2014: filmed in Western Australia.

Secrets of the Universe

Stephen Low Company; distributor: K2 Communications; director: Stephen Low; producer: Pietro Serapiglia; DP: Mark Poirier; executive producer: K2 Communications. Release: spring 2016.

Micro Monsters 3D: A Visit to the World of Insects

Atlantic Productions; distributor: tba; producers: Anthony Geffen, Sias Wilson; writer: David Attenborough; executive producer: Anthony Geffen. Release: 2016.

Secrets of the Royal Garden (formerly *The Kingdom of Plants*)

Atlantic Productions; distributor: tba; director: Martin Williams; producer: Anthony Geffen; script: David

Attenborough; DP: Tim Cragg; score: Joel Douek; executive producer: Anthony Geffen. Shot in 4K. Cast: David Attenborough. Release: 2016.

Wild Flight 3D

Atlantic Productions; distributor: tba; director: David Lee; producer: Anthony Geffen; writer: David Attenborough; DPs: Paul Williams, Peter Parks, Chris Parks; executive producer: Anthony Geffen. Release: 2016.



Christopher Nolan, left, on location in Iceland for *Interstellar*, with DP Hoyt van Hoytema at IMAX film camera.

Films in Development

Adventure Reef December Media Release Date: 3/31/2016 Format: 3D Length: 40 min.	A year in the life of one of the world's most amazing aquatic destinations.	Human Odyssey, The Release Date: 2014 Format: 3D Length: 40 min.	<i>The Human Odyssey: Secrets of Our DNA</i> tells a sweeping story of more than 70,000 years of human history, as our ancestors traveled out of Africa and came to inhabit every continent on Earth. Our cameras capture the stunning diversity of the living world, as scientist explorers track ancient migrations and probe the intricate interplay of the human genome and the environments our ancestors encountered. Audiences will discover the biological engines of genetic change that make human beings so much the same, yet so different, and able to adapt to a breathtaking range of environments around the planet.
Amazon Adventure SK Films, Inc. Release Date: 2015 Format: 3D Length: 40 min.	<i>Amazon Adventure</i> tells the adventure story of Henry Bates' fascinating 11-year journey through the Amazon as a young man who risked his life for science. Little known to the public, Bates made crucial contributions to biology: identifying 8,000 new species; discovering the phenomenon of "Batesian" mimicry whereby animals adopt the look of others to deceive predators; and most importantly, putting forward the first case for speciation—the birth of a new species. This discovery turned out to be the "beautiful proof" for Natural Selection.	Lightspeed Pioneers Release Date: 2015 Format: 3D Length: 40 min.	<i>LightSpeed Pioneers: Stranded on Mars</i> is an animated science fiction/adventure film designed for both full-dome planetarium screens and giant screen institutional theaters. Set in a future age of space exploration, the film follows a group of teenage astronauts-to-be as they train for voyages to other worlds. Simulated dangers become all too real, however, after a crash landing on Mars strands the group on the wrong side of the planet.
Asteroid Impact 3D Imax Corporation Release Date: 2016 Format: 3D Length: 40 min.	<i>Asteroid Impact</i> will reveal the origins of asteroids and the effects of previous Earth impacts, delve into the threat these celestial masses pose to our planet today, and examine how we monitor their trajectory in order to stay out of their deadly path. Through a tour of the solar system and a close look at the "city-buster" asteroid, Apophis, this new IMAX documentary will tell you everything about the massive space rocks that shape our universe through amazing and devastating collisions.	Mysteries of the Mediterranean Principal Large Format Release Date: 2017 Format: 3D Length: 40 min.	Five million years ago the waters of the Atlantic Ocean cascaded into a desert bowl between Europe and Africa, and the Mediterranean Sea was born. Since that time the mighty empires of Egypt, Greece, and Rome have come and gone on its shores. WW2 fighter planes have turned into reefs of soft coral, 3000-year-old urns are home to shimmering shoals of fish, and 16-foot-high statues from the sunken city of Heracleion are lying where they fell 1200 years ago. In the depths off ancient Athens we discover 20 families of sperm whales. A 20-minute version of the film will also be available in all digital formats.
Beavers, The Principal Large Format Release Date: 2017 Format: 3D Length: 40 min.	<i>The Beavers</i> is the story of a young beaver who sets off on a journey to find a mate, build a home, and start a family. Our young female is forced by her mother to leave the pond where she was born. She survives the perilous journey and finds a mate. They transform a barren patch of the American Rockies in an amazing feat of engineering—building a dam, a complex series of canals, and creating their own pond. But will our beaver couple survive the winter storms and spring floods, as well as the attentions of wolves, bears, and coyotes?	Ocean Freeway, The Achtel Pty. Ltd. Release Date: 2015 Format: 3D Length: 40 min.	Stretching over 2000 miles from the Great Barrier Reef to the green island of Tasmania, the East Australian Current is an invisible channel of fast-flowing water, hundreds of miles wide in places. It begins at the northern tip of the Great Barrier Reef, famous for the diversity of sea creatures that live there. At the southern end, in the cold waters off Tasmania, we find an array of unique creatures and a previously undiscovered coral paradise. Filmed with newly developed underwater housing technology,
Biology 2.0 Compagnie des Taxi-brousse Release Date: 2016 Format: 3D Length: 40 min.	After the dramatic advances in genomics, 21st century biology is also heading for a revolution: moving into the era of synthesis. Its objectives: transforming cells into a computational system, conceiving and constructing living factories to produce chemical molecules, inventing new forms of life, all to transform the world and to provide responses to health, energy, and data issues. The revolution in our knowledge of a living being's most intimate workings, the revolution in computer power, the revolution in working on a nanoscopic scale—all these converge towards this new revolution: that of synthetic biology.	Secrets of the Universe Stephen Low Company Release Date: 3/31/2016 Format: 3D Length: 40 min.	Travel to the Franco/Swiss border where the world's most brilliant scientists are working to find answers to some of life's most enduring "secrets," such as the origins of the universe after the big bang. Aided by the world's most powerful microscope, the \$13 billion Large Hadron Collider, we learn about why particles have mass, the nature of dark matter, the causes of gravity, and more.
Bumblebee Queen, The Principal Large Format Release Date: 2016 Format: 3D Length: 40 min.	The creator and producer of the giant screen hit <i>Bugs! A Rainforest Adventure</i> takes you into a world you cannot see with human eyes...into the world of <i>The Bumblebee Queen</i> . Set on a beautiful English country estate, it is the emotionally driven story of a queen bee and her struggle to bring up the next generation of kings and queens. We learn how vital insects are to us humans as we witness the ways in which the bumblebee queen, along with other insects and pollinators, work their natural magic in the meadow, the orchard, the flower gardens, the vegetable plots and the greenhouses.	Thinking Giants Achtel Pty. Ltd. Release Date: 7/1/2017 Format: 3D Length: 40 min.	Encounter extraterrestrial organisms with intelligence equal to or greater than that of humans, with complex and highly developed social structures, personalities, and capacity for emotion. They form family bonds and care for their young—sometimes more than humans do. Whales and dolphins, known for their extraordinary mental abilities, have bigger brains than humans. Discover orca whales, minke whales, humpback whales, and enter into a family of sperm whales—possibly the most highly evolved animals that ever lived on Earth.
Carrier Stephen Low Company Release Date: 2015 Format: 3D Length: 40 min.	<i>Carrier</i> will immerse audiences in breathtaking air and sea operations aboard a modern Nimitz-class nuclear-powered carrier and track the experiences of the young pilot of an F-18 Super Hornet and others engaged in a massive international event. Set against the stunning panorama of RIMPAC, a large multi-national naval exercise, the film will showcase the excitement of a technological ballet that brings a large array of ships and aircraft together in what is reminiscent of a real life Top Gun.	Untitled Toni Myers Space Documentary Imax Corporation Release Date: 2015 Format: 3D Length: 40 min.	Myers' upcoming 3D film, still untitled, will use IMAX's high-resolution photography and videography to offer illuminating views of our home planet from space, exploring the astonishing changes that have occurred on Earth in the past several decades. Made in cooperation with NASA, the film will explore mankind's future on and off the planet, increasing our understanding of the solar system, while also traveling light-years to other star systems to ponder the possibilities of "Goldilocks," an Earth-like planet.
Earth Story December Media Release Date: 1/31/2014 Format: 3D Length: 45 min.	If the history of the earth were a 24-hour clock, humans would have existed for just over a minute. This is the story of the rest of it. Earth's history is nothing if not dramatic. It has had to cope with at least five major extinction events. It has seen monumental change—the creation of an atmosphere, the formation of water, the emergence of a magnetic field—all three of which led to the most monumental change of them all... life. <i>Earth Story</i> takes us on a visual journey to see our world during its birth, its infancy, and its adolescence.	Wild Brazil 3D K2 Communications Release Date: 7/31/2016 Format: 3D Length: 42 min.	Dark jungles with hidden people. Mysterious denizens lurking in quiet rivers. Bottomless caverns riddled with gemstones. Pulsing cities with precariously perched favelas and tropical beaches. A kaleidoscope of culture and color and Carnival, Brazil is a country that stirs our senses and imagination. This giant screen film explores the hope and future of this distinctive land and celebrates its natural riches, emerald forests, and spirited people. From the wilds of the Amazon to the lights of Rio de Janeiro, from thundering Iguazu Falls to serene white sand beaches, <i>Wild Brazil</i> is a vibrant and musical portrait of a nation.
Extreme Weather National Geographic Studios Release Date: 2016 Format: 3D Length: 40 min.	<i>Extreme Weather</i> comes to us from famed storm chaser, Sean Casey. This dramatic and exciting film will take us inside hurricanes, lightning and tornadoes, drought and floods. We will see lightning move in a slow-motion dance, and travel on a groundbreaking mission to record the first vertical scans of a tornado. We will go inside an extraordinary wind-generating lab that can create winds up to 190 mph and maintain those winds for 12 hours to replicate the conditions of a hurricane. <i>Extreme Weather</i> will examine these forces of nature so we can better understand them and prepare ourselves for when they strike.	Wild Light Melrae Pictures Release Date: 9/30/2015 Format: 3D Length: 40 min.	Join us as Dr. Edith Widder explores the mysterious and beautiful natural phenomenon called bioluminescence—living organisms creating their own light to communicate. A renowned expert and marine biologist, she cracks their code and engineers an innovative way to speak their language. Vibrant IMAX technology will immerse the viewer in bio-rich landscapes, including the Great Smoky Mountains National Park, New Zealand, Puerto Rico, and the Caribbean Sea, where bioluminescence provides the edge to survive. Explore how we can harness this chemical reaction for future innovation.
Hawaii: Islands of Fire Ring of Fire Films, Inc. Release Date: 7/31/2016 Format: 3D Length: 40 min.	Experience the aloha and mystery of the Hawaiian Islands alongside the world's most active volcano! Journey with a young Polynesian boy on a time voyage through history as he joins native wayfarers, warriors, kings and queens—navigating uncharted oceans, tribal warfare, and spectacular volcanic eruptions. Follow along in a scientific adventure as a legendary volcanologist and our young Hawaiian apprentice work to save a village from hot flowing lava. Witness the courage of the Hawaiian people as they seek to save their precious land, species, ancient language, and their very culture.	Wonders of the Arctic Science North Release Date: 3/6/2014 Format: 3D Length: 40 min.	The Inuit have thrived for thousands of years in what is arguably the harshest environment on earth, the Arctic. Today, scientist pioneers are searching for answers to troubling questions about the impact of human activities around the world on this fragile frontier. The stories of our many forays into this captivating place are interwoven to create a unifying message about the state of the Arctic today. Underlying it all is the crucial role that ice plays in the northern environment and the changes that are quickly overtaking its people and animals.

(from **HOWE** on page 1)

enthusiasm to make this medium work.

Wow-some!

This is a new word I've just made up to describe that moment, that rare moment, in a dome when it all comes together. The quality, the resolution, the color, the image, the 3D-ness, the sound, and the story. And sometimes it doesn't even need the story to make you go "wow" with your inside voice, and often with your outside voice, too. (I'd have preferred to use the word awesome, but that's been subverted to describe less-than-awesome things, such as a new T-shirt, games like Flappy-Bird or a nice side of broccoli. The word has been degraded somewhat, hasn't it?)

Hitherto, I've had some wow-some moments in my life; freefalling for a mile, not strapped onto an expert (it makes a difference, you know); watching the Expo '92 lake-show spectacular from the island in the middle; upside down in a glider without a canopy; the extraordinary *House of Dancing Water* show at City of Dreams in Macau (which cost north of \$300 million, did you know!); relaxing in the Blue Lagoon geothermal spa in Reykjavik while witnessing a *Lord of the Rings* worthy thunderstorm; pouncing on both **Bill Gates** and the **Queen of England** (though not at the same time!)

And my best dome moment, at Chicago's **Adler Planetarium**, standing in the middle of the cosmos watching two galaxies collide. I felt like Dr. Who, watching the universe perform a ballet of the stars from the safety of my own TARDIS. It felt real, really real. Wow-some real. I felt that I should be holding my breath because I was in space. That real.

The Adler Planetarium, for those of you not familiar with it, is probably the only true 8K dome ever built (at least for public presentations). Each pixel is only 1.3 arc minutes across, very nearly equivalent to 20/20 vision resolution. It uses 20 super-duper high-contrast projectors called Zorro which can display a true sequential contrast of 1,000,000:1. That means it can project black. (It doesn't actually *project* black of course, it projects *nothing* for the black bits, but you know what I mean.) This unique combination of very high

resolution, very high contrast, and the shape of the dome means that most of the time you can't see the screen. Or at least can't determine where the screen is, and therefore it simply disappears. Move the content around a bit (ideally with two axes of motion) and that's it: 3D for free. Without the glasses. Well, not free exactly: all-in they spent about \$5 million on the technology and the very seamless Spitz screen. It is a truly unforgettable experience, though. In a very good way. A wow-some way.

**I felt like Dr. Who,
watching the universe
perform a ballet
of the stars
from the safety of
my own TARDIS.**

It felt real, really real.

Wow-some real.

Unforgettable experiences

I've had many other unforgettable experiences in a dome. Sadly, many of them not so good. Hours and hours of them, in fact. Some just looking at dots. Alignment dots. "Back a bit, one more, no the other way." That was how we aligned a dome back in the day. One person in the theater with tired eyes staring at the screen, the other at the console, clicking the keyboard. Hours and hours and hours in a dome looking at test patterns. Also fine colored lines. Then an all-white screen, then green, then red, then blue. "That's it, save it, let's get back to the hotel," often as the sun was rising. Next evening (yes, the client wanted to run shows during the day), "what's happened, what's moved?" The fact is, it all moved. The dome moves! Yes, it does, just an inch or so as it expands and contracts due to temperature variations with people and air-conditioning. And the signal changes. Those precise alignments carried out the night before were sent via old-fashioned

analogue signals. Which change, slightly.

But most of all, the big culprits were the lamps (or CRT's if you're old enough). Red and yellow and pink and green, orange and purple and blue. Often a combination of those, but never the same, day to day. What we were after was white. (In fact, normally a greenish white. It's a brighter white because our eyes are more sensitive to green.) And that was for just one projector. We needed to use a few of them. Six was, and still is, a common number of projectors needed to achieve sufficient resolution and brightness for a large dome. If projector number one was behaving itself, you could be certain that one of the five others wasn't. To make matters worse, we humans are really sensitive to color difference, in particular when two colors are side by side.

Color: it's not black and white

Certainly not. It's a very complicated subject, in fact. One way of measuring color is to use Delta-E's. Delta what's? No, not a trippy substance, but simply the metric used to describe the differences (the "distance") between two colors. Typically, the human eye can just perceive the difference of one Delta-E. The very best reference monitors used today (for digital publishing for instance) can be calibrated to achieve one Delta-E or even less. Trust me, that's impressive. A Delta-E of two is good, but four isn't.

As for projectors, digital cinema projectors might be calibrated to a Delta-E of two (if they're calibrated at all in the real world!). But in a multiplex that's okay, you're only ever looking at one at a time. So if the color is fractionally off, who knows?

No such luxury in domes. If the color is off by a Delta-E or a bit, you'll spot it. Simply because there's an image from another projector or two right next to it to compare. It's not obvious all the time, though. It depends on the content. A cloudless pale blue sky? Yes, that will do it. Skin tones across two projectors? Uh-huh. Mars. Yep, always Mars. Something about that tone of orange always does it. If you want to test a digital dome system, go to Mars (digitally of course, there's plenty of

(see **HOWE** on page 18)

(from **HOWE** on page 17)

content out there). If Mars and the pale blue sky looked good, you knew you had a great system with perfectly adjusted color matching.

So it was difficult, way back then, when digital wasn't fully digital. To align a dome so that it looked great was tough. It needed the most skillful people, the dome artisans. Often they were requested by name to come and align the dome. And when they did, it was great. How far back am I talking about? Decades perhaps? Er, no. Less than ten years.

I came from a company called SEOS. Experts in flight simulation technology, we expanded our expertise into domes because we thought we could do better. And we did, often. As soon as the technology was capable, we went fully digital. That meant replacing all the analogue bits with the latest digital bits. Which meant we could control the all of the bits (and bytes) very precisely. If we wanted to send the same color value of red to all projectors, we could. And it stayed that value, forever. This made a big difference.

Digital DLP projectors were also getting better, and more stable. No longer did we need to visit the projector factory to dismantle the projectors and hand-pick the components, to normalize as many variables as possible. We just checked the "color matched" box from the options list on the order form and the nice people at the factory did all that hard work for us. But these processes just improved the breed, and digital domes slowly got better, and stayed better, more often.

Return to a perfectly aligned dome a few weeks later, though, and of course it looked different. Simply because the lamps aged. And as they aged they changed in a fairly unpredictable way, not just getting dimmer. One would go a little reddish, another greenish. So after all that effort, your seamless display wasn't so seamless anymore. The worse ones, the ones that didn't have all that preparation, and care, and attention to detail, and expense, looked bad right out of the box. A box of Smarties (the original British version of M&M's), in fact. And that's what people called them. The stigma of digital domes. They looked like a box of Smarties

(but often less colorful because of the lack of contrast, which we'll cover later).

It's getting better, though

Recently, there have been two important technological advances for dome projection. The first is high-powered 4K projectors, which offer a good solution for domes, though not in all circumstances. It only takes two of these big machines to create a 4K dome (2.7 arc minutes per pixel), one pointing toward the front of the dome, the other the rear. This simply reduces the variables.

However, progress, being what it is, didn't stand still, and some bright spark had the idea of putting six big 4K projectors where six little ones used to go. Wow, more light, more resolution. Just over 6K of resolution, in fact (or "8K" if you're in the marketing department). And more colors, all different again. And less contrast (about which more later). Progress? Really? And the cost of lamps. And support. And spares. Two steps forward....

However, the second other major advancement, auto-alignment, can help a lot here. It's the holy grail. Now engineers can go to bed at normal times, and audiences can experience shows as the producer intended. It's complicated, but I'd say it's really getting there now, at least for geometry alignment (getting all the pixels to be where you want them to be). You can almost pop to your nearest hardware shop, buy some projectors, a server, an auto-alignment kit and some tools, and build your own dome system. (In fact you can do it online. I just have!)

As for color calibration, the judges are out (at least this one is), but it is definitely possible and at least one vendor, **Evans & Sutherland**, has installed one in Richmond, VA. So let's see. I'm hopeful. Getting auto-color right, and accurate enough (especially in the blend regions) is a major hurdle in resolving the problems with multichannel projection.

To fulldome or not to fulldome

Finally, in this first chapter, is the question of what to show on the dome. Digital fulldome has grown out of the planetarium market. Dark-sky (i.e., very dark scene) content is of great importance to this

group, along with full coverage of the dome surface: a 165- to 180-degree vertical field of view. Compare this to 15/70 film-based domes. These are typically larger domes, showing live, bright content which typically covers more than half of the dome, about a 125-degree vertical field of view.

What you want to show will determine what your system needs to be able to do: 3D, fulldome, high-brightness, black-blackness? All of the above?

A good place to start is to compare multichannel vs. single-channel systems. Single-channel means that one projector will cover the entire image area. It can also mean that a pair of projectors will cover the same area, one stacked on top of the other, typically for reasons of brightness. It's the approach **Imax Corporation** is using for their laser-powered digital dome system, which I'll explain, as best I can, in the second part of this series.

Multichannel means that one projector covers only a fraction of the entire image. Multichannel requires blending the images from the projectors in the overlap area, either digitally, or optically if dark scenes are required. It also requires color matching. Projectors can be paired up (double stacked) on multichannel systems, typically for 3D capability.

Looking forward, wouldn't it be nice if there was a light source that could be digitally controlled, accurately and automatically? Even calibrated to within one Delta-E? You're ahead of me, aren't you? Yep, lasers! I can't wait....

Multi or not: pros and cons

The disadvantages of multichannel are obvious. Simply put: calibration and stability. The main advantage is significant, too. Higher resolution. Much higher resolution, in fact. Not just by using more projectors, but also by using more lenses. More lenses means that each lens needs to do less work: each one only covers a portion of the entire resolution of the image. Multichannel will achieve the resolution of 15/70 film. Probably better. Also stability, for the digital part of the system has been resolved now, as has calibration. If it weren't for those damn lamps....

Conversely, a single-channel system is

Premiering in October and November

Dracula Untold

"The origin story of the man who became Dracula."

Produced and distributed by **Universal Pictures**. Directed by **Gary Shore**. Starring **Luke Evans, Sarah Gadon, Dominic Cooper, Art Parkinson, Charles Dance**. 2D. Release: Oct. 10.

John Wick

"An ex-hitman comes out of retirement to track down the gangsters that took everything from him."

Produced and distributed by **Summit Entertainment**. Directed by **David Leitch** and **Chad Stahelski**. Starring **Keanu Reeves, Michael Nyqvist, Willem Dafoe,**

Bridget Moynahan, John Leguizamo, Ian McShane. 2D. Release: Oct. 24.

Interstellar

"*Interstellar* chronicles the adventures of a group of explorers who make use of a newly discovered wormhole to surpass the limitations on human space travel and conquer the vast distances involved in an interstellar voyage."

Produced by **Legendary Pictures**, distributed by **Paramount Pictures**. Directed by **Christopher Nolan**. Starring **Matthew**



Keanu Reeves is John Wick.

McConaughey, Anne Hathaway, Jessica Chastain, Bill Irwin, John Lithgow, Ellen Burstyn, Michael Caine. 2D. Nov. 4.

(from **FERGUSON** on page 11)

the merits of film, there is a distinct merit in the fact that the grain structure is random. And therefore you don't have problems like moiré patterns, which have largely been overcome in digital. But every now and then somebody says, "That's got a TV-like look." I think what they're mainly talking about is the lack of the grains being random. When you have the random grains, you have the possibility to do what Doug [Trumbull] did very nicely [with Showscan].

Essentially, DMR does something similar. An invention that would be wonderful

would be to have digital with random pixels. Who knows what'll come next?

Anyway, given all of that, what I would recommend is to keep our options open. Give us options. Give us filmmakers options for as long as possible, and then we can make the decision month by month, depending on whatever new has emerged. So I'd say anything that keeps both [film and digital] going for some time longer would be extremely useful.

I would say that the next top priority should go on processing of the intermediate stages, so that becomes predictable, so the output is predictable and much more

user-friendly, and you don't have so many unknowns in the system. If I were in a position to make decisions, I would say, let's try to get the intermediate digital systems up to 12 to 16 K, and remove that as a bottleneck. The cameras and projectors will follow, would be my guess.

Graeme Ferguson helped invent the 15/70 film format, co-founded Imax Corporation, and over 40 years has produced and/or directed 15 giant-screen films, including North of Superior, The Dream is Alive, and Hubble 3D.

less complex. But complexity is relative: an iPhone is a very complex device but its technology has made it *seem* simple. Similarly in domes, technology will make the systems appear increasingly simple. Eventually, the number of projectors will not be the determining factor for the reliability of the system. Other things will be. And reliability and consistency will cease to be the prime consideration, because all systems will be reliable and consistent.

The disadvantage to single-channel systems is resolution. It's limited, in a dome, to the vertical resolution of the projector. That's 2160 pixels for a 4K projector. So the question for a single-channel system is, how much dome should be covered by

2160 pixels? At 125 degrees (the same coverage as 15/70 film), 2160 pixels yield a pixel size of 3.5 arc minutes. Which is *okay*, but it's hardly ground-breaking.

Reduce the vertical field of view to 90 degrees and you get 2.5 arc minute-sized pixels, about equivalent to a 4K dome. At that vertical field of view it becomes a "dome insert" projection system, where the image becomes rectangular (or as much as it can be on a dome). This is significant, because there's a lot of rectilinear content out there, available as DCPs, the digital file distribution format for Hollywood films. Life gets really easy now. Same for 3D.

Good resolution, lots of content, 2D

and 3D. But it's not really "dome," is it? The only thing that makes it "dome" is that it's played in a dome. Is dome insert the future? I doubt it.

So why not wait for 8K projectors? These will have 4K resolution vertically, with just one projector. Yes they will....

Martin Howe is CEO of TEQ4 Ltd., and a member of the board of directors of the Giant Screen Cinema Association. He was formerly giant-screen business development for Electrosonic, and before that was chief executive for Global Immersion from 2007 to 2012. He can be reached at martin@teq4.com.

(from **SHORTS** on page 28)

would not have done this release if there were competitive Hollywood blockbusters at that time. In fact we helped to influence Netflix to release it at that time. The thought was, when you have a weak shoulder period, why not try something different?"

GSCA launches marketing library

The **Giant Screen Cinema Association** has launched a new service, an online Marketing Resource Library that presents examples of campaigns that have been successful for member theaters and distributors, including winners of the association's Marketing and Creativity awards. Among the first examples posted are the **Saint Louis Science Center's** recent event to honor veterans at its opening of *D-Day: Normandy 1944* (see article in *LFX*, September 2014); the Polynesian cultural festival held by the **Museum of Discovery and Science** (Ft. Lauderdale) along with its opening of *Journey to the South Pacific* from **MacGillivray Freeman Films**; and the rebranding campaign the **Putnam Museum** in Davenport, IA, launched to promote its conversion from IMAX to 4K digital.

Each month, the GSCA's Marketing and Member Services Committee will add three new examples. The library is open to everyone through Nov. 21, after which it will be visible only to members with a login and password. Go to giantscreencinema.com, and click on "Member Center."

3net channel shuts down

3net, the 3D cable channel that was a joint venture between **Discovery Communications**, **Sony**, and **Imax Corporation**, ceased operations in August. The channel had been launched in February 2011, and was carried by satellite provider **DirecTV**. (See *The Biz*, February 2010 and February 2011.) In addition to transmitting giant-screen films such as Imax's *Hubble 3D*, 3net produced original programming through its 3net Studios division.

However, the public did not adopt 3D TVs, just being rolled out in 2010-2011, at the rate the industry expected.

According to press reports, no 3net employees will be laid off. A Discovery

spokesperson told RealScreen.com that "the 3net staff supported both the channel and the studio, so no changes to report there."

Kodak lays off more film workers

Following reports that **Eastman Kodak** plans to lay off 70 employees at its Rochester, NY, headquarters, some film industry observers are speculating that the studios that promised to buy enough motion picture film stock to keep the production lines running (see *The Biz*, Summer 2014) may not be following through on their commitments.

Studio Daily has quoted **George Conboy**, head of **Brighton Securities**, a financial services company based in Rochester, as saying Kodak has so far produced only 10% of the film stock it had expected to make this year. Conboy has also heard that, among the major studios, only Disney has actually signed a film-buying deal with Kodak. "My opinion is that the studios are giving lip service to the availability of film for their more sensitive auteurs."

Kodak has not commented, saying only that "the contracts are still being finalized."

Jackson Hole winners

At the **Jackson Hole Science Media Symposium**, held in Boston, MA, in September, the following GS and fulldome-projects won awards:

Best Immersive Cinema (3D/Large Format): *Mysteries of the Unseen World*, **National Geographic Studios**.

Best Immersive Cinema (Fulldome): *Dark Universe*, **American Museum of Natural History**.

IMERSA 2015 dates announced

IMERSA, the association of Immersive Media, Entertainment, Research, Science, and Art, will hold its sixth annual summit in Denver, Feb. 25-March 1, 2015. The meeting will "[continue] the conversation between converging business sectors and [shape] the industry with 8K fulldome film showcases, innovation sessions, abundant opportunities for networking, and much more," according to a release.

For more information, visit imersa.org.

Worldwide GS and IMAX Theaters

As of November 1, 2014

Note: To avoid double counting, theaters with digital and 15/70 systems are shown as 15/70 only.

C = Commercial Standalone
CM = Multiplex
CT = Theme Park
I = Institutional

By Format and Operator Type

		C	CM	CT	I	Total
Africa	D		4			4
	8/70				1	
	10/70				1	1
	15/70					
	Total		4		2	6
Asia/Pac	D		207	1	20	228
	8/70	1			9	10
	10/70				9	9
	15/70	2	3	1	28	34
	Total	3	210	2	66	281
Europe	D	2	96	2	3	103
	8/70	1		1	6	8
	15/70	4	2	5	10	21
	Total	7	98	8	19	132
Middle East	D		8			8
	8/70					
	15/70	2			2	4
	Total	2	8		2	12
North America	D	4	310	1	40	355
	8/70	3			11	14
	15/70	10	43		70	123
	Total	17	353	1	121	492
South America	D	1	14		1	16
	8/70				1	1
	15/70	1				1
	Total	2	14		2	18
World	D	7	639	4	64	714
	8/70	5		1	28	34
	10/70				10	10
	15/70	19	48	6	112	183
	Total	31	687	11	212	941

By 2D / 3D

	2D	3D	Total
Africa	2	4	6
Asia/Pac	54	227	281
Europe	20	112	132
ME	1	11	12
NA	72	420	492
SA	1	17	18
Total	150	791	941

By Screen

	Dome	Flat	Comb	Total
Africa	2	4		6
Asia/Pac	47	234		281
Europe	14	118		132
ME	1	11		12
NA	49	443	2	492
SA	2	16		18
Total	115	824	2	941

Bookings: Oct.-Nov. 2014 by Film

563 bookings of 80 films in 185 theaters

These listings do not include Hollywood films shown in multiplex IMAX theaters. Those films are listed when they are shown in non-multiplex theaters, and conversely, non-Hollywood giant-screen films showing on multiplex IMAX screens are also listed.

Listings shown in **bold face** below are new or updated listings. The rest are unchanged from the previous

month's issue.

The data on the following pages are *not* warranted to be comprehensive or accurate in every detail, despite our best efforts to make them so. They have been compiled from theater surveys, distributors, the Web, and other sources.

We will make every effort to improve the thorough-

ness, and accuracy of these data. If your theater or film is not shown here, please get in touch with us to update our listings.

Where a date is not shown, it means that no date was provided by the source or, in the case of a closing date, that no date has been set, or that the run is indefinite.

The key to film abbreviations is on page 21.

Film	Theater	Open	Close	Film	Theater	Open	Close	Film	Theater	Open	Close
AfricAdv	Katowice CC	10/4/13	10/3/15	FlyMons	Dayton	3/1/13	6/30/15	GC	Nuremberg	10/15/14	10/14/15
	Krakow CC	10/4/13	10/3/15		Huntsville USSRC	7/1/13	7/1/15		Orlando SC	7/5/14	1/14/15
	Lodz CC	10/4/13	10/3/15		McMinnville	3/23/12	7/1/15		Phoenix ASC	11/22/14	11/21/15
	Poznan CC	10/4/13	10/3/15		Pensacola NAM	6/8/11	7/15		Poznan CC	6/18/14	9/18/15
	Warsaw CC	10/4/13	10/3/15		Seattle PSC 2	6/14/13	6/14/15		Prague CC	5/22/14	5/21/15
AIWC	Chandigarh	9/5/14	9/4/15	FMTTM	Des Moines	10/1/14	5/30/15	GCA	Stockholm	9/30/14	8/31/15
Alamo	San Antonio 2D AMC				Edmonton TWS	12/26/13	12/12/14		Tijuana	10/25/14	10/24/15
Alps	Davenport Put	2/22/14	2/22/15		Parker	8/14/14	2/27/15		Warsaw CC	6/18/14	9/18/15
Amazon	Hartberg	1/1/13	12/31/14		Portland OMSI	5/22/14	5/21/15		Grand Canyon DCI	11/1/99	12/14
Animalop	Pittsburgh CSC	10/1/10			Stockholm	5/19/13	12/31/14		Davenport Put	10/3/14	10/2/15
Arabia3D	Mexicali	3/28/14	3/27/15	FON	Kuwait SCK	4/17/14	10/15/14	GP	Gatineau	5/1/13	3/30/15
	Amman	10/20/13	10/20/14		Columbus COSI	8/1/14	7/30/15		Harrisburg	11/1/14	12/31/15
	Copenhagen	3/1/13	3/31/15		Edmonton TWS	12/26/13	12/31/14		Paris Geo	7/1/14	6/30/15
	Dallas PMNS	8/20/13	8/13/15		Pittsburgh CSC	6/1/13	12/31/14		Shanghai Dome STM	8/31/14	8/30/15
	Edmonton TWS	12/26/13	12/31/14		Port of Spain	10/15/14	10/15/15	Greece	Kolkata SC	1/15/14	1/14/15
Bugs	London BFI	9/1/14	9/30/15	FOTB	San Diego RHF	1/1/14	12/14		Atlanta FMNH	6/13/14	6/30/15
	Melbourne MV	9/1/14	9/30/15		Bogota Mal	4/1/13	2/1/15		Birmingham UK	9/24/13	12/31/14
	Sydney WBS	8/6/14	8/6/15		Calgary TS	6/18/13	12/31/14		Branson	3/1/14	3/1/15
	Vancouver TWS	3/11/06	6/30/15		Chattanooga TA	10/5/12	10/1/14		Chicago Imx	10/4/13	10/4/14
	Hartberg	10/1/13	12/31/14		Cincinnati MC	2/14/13	6/20/15		Columbus COSI	6/1/14	8/1/15
CRA	Alexandria BA	10/1/13	12/31/14	GP	Cleveland	11/27/13	11/26/14	GWS	Des Moines	6/6/14	12/31/15
	Austin TSHM	5/1/14	12/31/14		Columbus COSI	9/1/14	6/30/15		Erie	6/6/14	6/30/15
	Chantilly	5/23/14	12/31/14		Dallas PMNS	5/28/14	10/31/14		Galveston	6/28/14	6/30/15
	Charlotte DP	8/22/14	12/31/14		Dearborn THF	2/18/13	6/12/15		Houston MNS	8/2/13	7/31/15
	Chicago MSI	5/23/14	12/31/14		Detroit MSC	1/11/14	6/30/15		Hutchinson	5/1/14	5/31/15
CV	Columbus GA NIM	5/23/14	12/31/14	HaunCast	Edmonton TWS	12/26/13	12/31/14	HCBTD	Jersey City	10/4/13	10/4/14
	Copenhagen	4/7/14	12/31/14		Fort Lauderdale	2/8/13	2/7/15		Kuwait SCK	10/15/13	10/15/14
	Dayton	5/24/14	12/31/14		Gatineau	10/5/12	10/4/15		Melbourne MV	12/31/13	12/31/14
	Dearborn THF	3/28/14	12/31/14		Greensboro	6/1/13	1/9/15		New York AMNH	7/7/14	1/7/15
	Denver MNS	5/24/14	12/31/14		Hampton VASC	3/29/13	12/31/14	HidUniv	Norwalk	10/4/13	10/4/14
D-Day	Edmonton TWS	5/23/14	12/31/14	HCBDT	Harrisburg	10/18/14	1/31/15		Peoria RM	7/1/14	7/1/15
	Gatineau	4/4/14	12/31/14		Hastings	3/17/13	6/12/15		Philadelphia FI	7/1/14	7/1/15
	Hampton VASC	5/23/14	12/31/14		Hong Kong SM	5/1/14	10/1/14		Phoenix ASC	9/1/14	9/1/15
	Hastings	10/16/14	12/31/14		Houston MNS	10/5/12	6/30/15		Pittsburgh CSC	6/13/14	6/30/15
	Houston MNS	5/23/14	12/31/14		Melbourne MV	3/21/13	3/20/15	HaunCast	Portland OMSI I	11/29/13	11/29/14
DIA	Huntsville USSRC	4/11/14	12/31/14	G3DNW	Memphis Pink	3/1/14	5/22/15		Richmond SMV	3/15/14	3/15/15
	Hutchinson	4/21/14	12/31/14		Mobile	1/14/14	8/31/15		Saint Augustine	8/9/13	9/8/15
	Indianapolis Imx	5/9/14	12/31/14		Orlando SC	3/1/14	2/28/15		Seattle PSC 1	9/19/14	9/19/16
	Lehi	5/23/14	12/31/14		Pittsburgh CSC	3/15/13	12/31/14		Sydney WBS	12/30/13	12/30/14
	Louisville KSC	5/23/14	12/31/14		Raleigh	10/19/12	6/30/15		Tallahassee CLC	6/15/13	1/17/15
DinoAliv	Lubbock SS	5/1/14	12/31/14	HCBDT	Regina	1/18/14	1/17/15	HidUniv	Toronto OSC	10/4/13	10/4/14
	McMinnville	5/23/14	12/31/14		Sacramento Imx	8/13/13	6/30/15		Victoria DCI	1/14/14	1/14/15
	New Orleans	9/1/14	12/31/14		Saint Augustine	1/18/13	12/31/14		Virginia Beach AMSC	5/29/14	5/31/15
	Paris Geo	4/2/14	12/31/15		Saint Paul SMM	10/1/14	6/1/15		New Orleans	9/15/13	11/15/14
	Pensacola NAM	10/1/14	3/31/15		Salt Lake City Clark	2/8/13	8/8/15	HaunCast	San Simeon DCI	8/17/96	
DPTP	Raleigh	5/23/14	12/31/14	HCBDT	San Diego RHF	10/12/12	6/30/15		Agasscalientes	2/28/14	2/27/15
	Saint Augustine	5/23/14	12/31/14		San Jose Tech	2/9/13	6/30/15		Cincinnati MC	6/13/14	10/12/14
	Saint Louis SC	4/25/14	12/31/14		Sudbury	6/17/13	7/30/15		Dayton	5/1/14	4/30/15
	Seattle PSC 2	3/29/14	12/31/14		Suzhou SCAC	3/31/14	3/31/15		Glasgow	5/2/14	5/1/15
	Singapore DC	4/1/14	12/31/14		Tallahassee CLC	1/18/13	12/31/14	HaunCast	Hampton VASC	10/12/13	10/11/14
Dragons	Sioux Falls	5/1/14	12/31/14	HCBDT	Tampa MOSI	2/8/13	6/30/15		Hong Kong SM	7/1/14	12/31/14
	Sydney WBS	9/4/14	12/31/14		Toronto OSC	4/8/13	10/31/14		Lubbock SS	9/12/14	3/11/15
	Victoria DCI	3/21/14	12/31/14		Vancouver TWS	3/6/13	12/31/14		Orlando SC	6/13/14	10/12/14
	Washington NASM	5/23/14	12/31/14		Victoria DCI	4/5/13	6/30/15		Paris Geo	10/3/14	10/2/15
	Hartberg	10/1/13	12/31/14		Apple Valley Imx	10/3/14	4/2/15		Raleigh	11/7/14	11/6/15
DS3D	Sydney WBS	12/30/13	12/30/14	HCBDT	Atlanta FMNH	10/17/14	3/31/15	HaunCast	Salt Lake City Clark	7/18/14	7/17/15
	Tampa MOSI	2/7/14	2/4/15		Berlin CS	4/20/14	10/19/15		San Diego RHF	7/4/14	7/3/15
	Baton Rouge LASM	9/12	9/15		Budapest CC	4/24/14	4/23/15		Seattle PSC 2	1/10/14	1/9/15
	Gatineau	11/1/14	12/14		Chattanooga TA	5/23/14	5/31/15		Stockholm	9/15/13	12/31/14
	Jersey City	10/13	5/15		Copenhagen	2/8/14	2/7/15	HaunCast	Tallahassee CLC	2/14/14	2/13/15
EarthWin	Killeen	5/12	5/15	HCBDT	Dallas PMNS	9/1/14	5/31/15		Tampa MOSI	10/25/13	10/24/14
	Koriyama	11/13	11/14		Davenport Put	10/17/14	10/16/15		Toulouse CDE	2/1/14	1/31/15
	Louisville KSC	6/14	7/16		Galveston	5/24/14	12/31/14		Valencia Spn	4/1/14	3/31/15
	Lubbock SS	1/14	12/14		Gatineau	10/10/14	4/9/15		Vancouver TWS	10/11/14	10/10/15
	Sioux Falls	4/14	12/14		Guayaquil	4/20/14	4/19/15	HaunCast	Victoria DCI	10/25/13	10/24/14
Everest	Tallahassee CLC	9/12	6/15	HCBDT	Houston MNS	2/15/14	12/31/14		Beijing 3D CSTM	10/15/14	10/15/15
	Guayaquil	5/1/14	5/5/15		Jersey City	7/4/14	1/3/15		Boston MOS	11/16/13	11/15/14
	San Diego RHF	11/13	10/14		Karlsruhe	10/6/14	8/31/15		Stockholm	1/1/12	12/31/14
	Auckland Sky	2/14	2/15		Katowice CC	6/18/14	9/18/15	HaunCast	Apple Valley Imx	11/4/14	12/14
	Guayaquil	3/14	2/15		Krakow CC	6/18/14	9/18/15		Austin TSHM	11/4/14	12/14
FightPil	Vulcania	3/14	2/15	HCBDT	Kuwait SCK	10/3/14	4/2/15		Bradford	11/4/14	12/14
	Athens Eug	10/1/13	10/31/14		Lodz CC	6/18/14	9/18/15		Branson	11/4/14	12/14
	Hartberg	10/1/13	12/31/14		Los Angeles CSC	10/1/14	2/28/15		Chantilly	11/4/14	12/14
	Poitiers Imax	5/31/14	1/31/15		Lubbock SS	11/7/14	6/6/15		Chicago Imx	11/4/14	12/14
	Chantilly	12/10/04	7/15		Lucerne	6/5/14	6/4/15	HaunCast	Dearborn THF	11/4/14	12/14
	Corpus Christi Lex	5/12/12	7/15		Montreal SC	2/10/14	2/9/15		Des Moines	11/4/14	12/14

Film	Theater	Open	Close	Film	Theater	Open	Close	Film	Theater	Open	Close
IOLM	Fort Lauderdale	11/4/14	12/14	Kenya	Boston MOS	1/17/14	1/23/15	Mummies	San Diego RHF	11/8/13	10/31/14
	Huntsville USSRC	11/4/14	12/14		Charlotte DP	6/13/14	6/12/15		San Jose Tech	8/30/14	9/1/15
	Indianapolis Imx	11/4/14	12/14		Chattanooga TA	3/7/14	3/6/15		Sydney WBS	2/14/14	2/15/15
	London BFI	11/4/14	12/14		Cincinnati MC	1/17/14	1/16/15		Valencia Spn	7/1/14	6/30/15
	London SM	11/4/14	12/14		Cleveland	5/23/14	5/22/15		Washington NMNH	9/26/14	9/25/15
	Melbourne MV	11/4/14	12/14		Denver MNS	2/14/14	2/13/15		Portland OMSI	1/1/14	1/1/15
	Philadelphia FI	11/4/14	12/14		Detroit MSC	6/14/14	6/13/15		San Diego RHF	6/1/14	6/30/15
	Raleigh	11/6/14			Fort Lauderdale	1/17/14	1/16/15	ND	New Delhi ICC		
	Sacramento Imx	11/4/14	12/14		Galveston	2/14/14	2/13/15	Niagara	Niagara Can DCI	7/1/86	
	San Jose Tech	11/4/14	12/14		Hague	7/1/14	6/30/15	Ozarks Penguins	Niagara NY DCI	5/1/07	
	Seattle PSC 2	11/4/14	12/14		Harrisburg	10/18/14	1/23/15		Branson	9/93	12/14
	Sydney WBS	11/4/14	12/14		Norwalk	7/1/14	10/8/15		Baltimore MSC	6/22/14	6/30/15
	Tampa MOSI	11/4/14	12/14		Omaha Zoo	11/2/14	11/1/15		Beijing CFM	1/1/14	1/1/15
	Washington NASM	11/4/14	12/14		Paris Geo	5/16/14	5/15/15	PTJH	Birmingham UK	11/1/13	10/31/14
	Apple Valley Imx	4/4/14			Port of Spain	2/6/14	2/5/15		Boston NEA	5/24/13	1/1/15
	Atlanta FMNH	4/4/14			Puebla	2/14/14	2/13/15		Columbus COSI	9/21/13	6/5/15
	Atlantic City	4/4/14			Raleigh	12/21/13	12/20/14		Dearborn THF	4/18/14	4/17/15
	Bangkok Par Maj	5/29/14			Regina	10/3/14	10/2/15		Galveston	3/4/14	12/31/14
	Bangkok Pin Maj	5/29/14			Richmond SMV	7/1/14	6/30/15		Garza Garcia	6/12/14	12/12/14
	Bangkok Rat Maj	5/29/14			Saint Augustine	8/1/13	7/31/15		Gatineau	12/20/13	12/19/14
	Birmingham AL	4/4/14			San Diego RHF	2/14/14	2/13/15		Indianapolis Imx	6/27/14	12/26/14
	Boston NEA	4/4/14			San Jose Tech	1/11/14	6/30/15		Jersey City	6/28/13	1/15/15
	Branson	4/4/14			Seattle PSC 2	1/24/14	1/23/15		Kagawa	10/1/14	4/12/15
	Chicago Imx	4/4/14			Shreveport	10/3/14	10/2/15		Kuwait SCK	8/9/13	11/8/14
	Cleveland	4/4/14			Stockholm	2/14/14	2/13/15		Lucerne	3/14/14	3/13/15
	Columbus GA NIM	4/4/14			Vancouver TWS	5/17/14			Melbourne MV	9/1/14	10/18/14
	Denver MNS	6/6/14			Victoria DCI	11/14/14	2/13/15		Seoul 63	7/21/14	11/20/14
	Des Moines	4/4/14			Gatineau	9/27/13	3/31/15		Albuquerque NMMNH	8/29/14	9/28/15
	Edmonton TWS	4/4/14			New Orleans	5/30/14	12/31/14		Atlanta FMNH	9/1/14	11/30/14
	Fort Lauderdale	4/4/14			Spokane RP	3/1/14	12/31/14		Boston MOS	5/1/14	4/30/15
	Fort Worth	4/4/14			Columbus COSI	8/1/14	7/30/15		Cleveland	11/26/14	11/25/15
	Hampton VASC	4/4/14			Davenport Put	2/22/14	2/22/15		Columbus COSI	5/1/14	4/30/15
	Hat Yai Maj	5/29/14			Richmond SMV	9/1/14	8/31/15		Dallas PMNS	5/23/14	5/22/15
	Indianapolis Imx	4/4/14			Saint Louis Arch	1/13	2/15		Davenport Put	7/17/14	7/16/15
	Jersey City	4/4/14			Washington NMNH	1/1/13	12/31/14		Denver MNS	6/1/14	5/31/15
	Los Angeles CSC	4/4/14			Davenport Put	2/1/13	2/1/15		Edmonton TWS	9/26/14	9/25/15
	Melbourne MV	6/19/14			Indianapolis Imx	10/4/13	10/4/14		Gatineau	5/9/14	5/8/15
	Montreal SC	4/28/14			Louisville KSC	2/8/14	1/9/15		Houston MNS	6/6/14	6/5/15
	New Orleans	4/4/14			Lucerne	6/7/13			Louisville KSC	7/4/14	7/3/15
	New York Emp AMC	4/4/14			Peoria RM	2/1/14	10/31/14		Lubbock SS	6/1/14	5/31/15
	Norwalk	4/4/14			Phoenix ASC	1/18/14	1/18/15		Lucerne	9/1/14	9/1/15
	Omaha Zoo	4/4/14			Quebec	10/15/12	10/4/14		Mexico City Pap	4/1/14	12/31/14
	Pensacola NAM	4/4/14			San Antonio 3D AMC	10/4/13	10/4/14		Milwaukee	6/13/14	6/12/15
	Quebec	4/4/14			Sioux Falls	10/1/12	10/10/14		Oklahoma City SMO	8/29/14	2/28/15
	Raleigh	4/4/14			Tallahassee CLC	1/17/14	1/17/15		Orlando SC	6/7/14	6/30/15
	Regina	4/4/14			Detroit MSC	1/14	2/15		Penrith	9/8/14	3/1/15
	Sacramento Imx	4/4/14			Galveston	1/14	2/15		Richmond SMV	7/15/14	7/14/15
	Saint Augustine	4/4/14			Greensboro	1/14	12/14		Salt Lake City Clark	10/10/14	10/9/15
	Saint Louis SC	5/23/14			Memphis Pink	1/14	2/15		Sudbury	10/9/14	8/31/15
	Salt Lake City Clark	4/4/14	4/3/15		Pensacola NAM	1/14	12/14		Tampa MOSI	6/28/14	6/27/15
	San Jose Tech	4/4/14			Salt Lake City Clark	1/14	2/15	Rescue	AI Khobar	6/6/13	12/14/15
	Seattle PSC 2	4/4/14			Sioux Falls	1/14	12/14		Beijing CFM	1/14	1/15
	Shreveport	4/4/14			Beijing Dome CSTM	1/1/14	1/1/15		Davenport Put	6/24/12	3/31/15
	Spokane RP	4/4/14			Hartberg	10/1/13	12/31/14		Dongguan STM	3/14/14	2/28/15
Jerusalem	Sudbury	4/4/14			La Coruna	12/1/13	12/1/14	Rheged RME	McMinnville	6/1/12	5/31/15
	Syracuse MOST	4/4/14			Las Palmas	3/15/13	2/28/15		Penrith	7/1/00	
	Tallahassee CLC	4/4/14			McMinnville	3/23/12	6/18/15		Boston MOS	5/1/13	10/31/14
	Tampa MOSI	4/4/14			Edmonton TWS	12/26/13	12/31/14		Pensacola NAM	10/1/14	3/31/15
	Victoria DCI	5/16/14			Pensacola NAM	11/8/96		ROF	Charleston CCAS	7/6/14	11/2/14
	Washington NMNH	4/4/14			Detroit MSC	12/26/12	12/31/14	SAA	Taichung NMNS	7/1/14	6/30/15
	Albuquerque NMMNH	3/2/14	12/31/14		Erie	1/1/14	12/31/14	SeaMonst	Davenport Put	2/22/14	2/22/15
	Birmingham AL	5/23/14	12/31/15		Grand Rapids Cel	10/1/12	12/31/14		Edmonton TWS	12/26/13	12/31/14
	Branson	3/1/14	6/2/15		Lansing Cel	10/1/12	12/31/14		Milwaukee	3/1/14	6/1/15
	Cincinnati MC	10/10/14	10/9/15		Portage Cel	10/1/12	12/31/14	Sharks3D SpacJunk	Taipei MCRC	1/1/14	12/31/14
	Columbus GA NIM	10/18/13	10/17/14		Boston MOS	10/1/14	6/30/15		Birmingham UK	1/1/12	1/1/15
	Davenport Put	11/8/13	10/31/14		Alexandria BA	10/1/13	12/31/14		Guangzhou MoW	5/1/13	10/31/14
	Dearborn THF	2/8/14	2/7/15		San Diego RHF	1/14	12/14		Hastings	9/13/13	
	Denver MNS	2/14/14	2/13/15		Valencia Spn	1/1/12	12/31/14	Hutchinson		10/31/14	10/30/15
	Edmonton TWS	12/26/13	12/31/14		Albuquerque NMMNH	1/2/14	1/1/15		Mobile	4/1/14	10/31/14
	Fort Worth	9/5/14	2/28/15		Calgary TS	7/1/14			Tallahassee CLC	2/10/12	3/18/15
	Grand Rapids Cel	10/18/13	12/31/14		Columbus COSI	11/19/14	11/18/15	TA	Birmingham AL	1/6/14	1/6/15
	Hague	3/31/14	3/30/15		Copenhagen	6/19/14	6/18/15		Chicago Imx	9/12/14	9/12/15
	Harrisburg	10/18/14	9/30/15		Dallas PMNS	11/1/13	10/31/14		Hastings	1/15/14	6/30/15
	Hastings	11/7/13	11/6/14		Davenport Put	2/1/14	2/1/15		Kansas City Sci	4/5/13	10/5/14
	Houston MNS	10/4/13	10/1/14		Denver MNS	11/1/13	10/31/14	TinyGian ToFly	Louisville KSC	2/8/14	1/10/15
	Lehi	10/18/13	10/17/14		Erie	3/14/14	3/13/15		Memphis Pink	3/8/14	3/8/15
	London BFI	1/1/14	12/31/14		Garden City	9/2/14	9/1/15		Sioux Falls	9/1/14	9/1/15
	Melbourne MV	8/28/14	8/27/15		Hartford CSC	9/13/14	9/12/15		Lucknow	5/1/14	11/30/14
	Memphis Pink	4/12/14	5/22/15		Hastings	6/3/14	6/2/15	TOTIA	Mumbai	6/1/14	12/31/14
	Mobile	9/1/14	1/31/15		Huntsville USSRC	7/1/14	12/31/14		Washington NASM	7/1/76	
	Montreal SC	10/10/14	10/9/15		Jersey City	7/4/14	7/3/15		AI Khobar	6/1/14	6/1/15
	Paris Geo	10/15/13	10/14/14		Kuwait SCK	1/27/14	2/1/15		Austin TSHM	11/1/13	11/1/14
	Pittsburgh CSC	3/7/14	3/6/15		Lehi	12/20/13	12/19/14		Baltimore MSC	2/1/14	2/1/15
	Raleigh	2/21/14	2/20/15		London SM	8/1/14	7/31/15	TinyGian ToFly	Birmingham AL	11/5/13	11/5/14
	Saint Augustine	2/28/14	2/27/15		Melbourne MV	3/24/14	3/24/15		Birmingham UK	9/24/13	12/31/14
	Salt Lake City Clark	11/22/13	1/1/15		Mexico City Pap	11/15/14			Chattanooga TA	10/3/14	10/3/15
	Speyer Dome	12/12/13	12/11/14		Milwaukee	10/1/14			Columbus COSI	9/15/14	5/31/15
	Sudbury	4/19/14	4/13/15		Orlando SC	11/1/13	11/30/14	TinyGian ToFly	Copenhagen	12/12/13	12/12/14
	Sydney WBS	2/1/14	1/31/15		Philadelphia FI	7/1/14	6/30/15		Dallas PMNS	11/15/13	11/15/14
	Toronto OSC	3/7/14	12/31/14		Pittsburgh CSC	1/2/14	1/1/15		Davenport Put	2/1/14	2/1/15
	Victoria DCI	8/8/14	7/31/15		Portland OMSI	11/29/13	11/17/14		Detroit MSC	9/26/14	9/26/15
JTM JTTSP	Beijing CFM	1/1/14	12/31/14		Raleigh	11/1/13	10/31/14	TinyGian ToFly	Erie	10/4/13	10/4/14
	Atlanta FMNH	1/24/14	1/13/15		Saint Louis SC	10/9/14	5/30/15		Galveston	11/15/13	11/15/14

Film	Theater	Open	Close	Film	Theater	Open	Close	Film	Theater	Open	Close
Harrisburg		10/18/14	5/31/15	Victoria DCI		8/30/13	5/31/15	Vulcania	Vulcania	2/22/02	
Hastings		2/1/13	6/30/15	Washington NMNH		10/18/13	10/31/14	WATE	Katoomba	6/1/97	
Houston MNS		1/25/13	6/30/15	Yellowstone		5/1/14	5/31/15	WildOcea	Milwaukee	11/29/13	11/29/14
Hutchinson		3/1/13	6/30/15	Berlin CS		9/6/13	6/30/15		Portland OMSI	1/15/14	1/15/15
Indianapolis Imx		11/15/13	11/15/14	Budapest CC		10/4/13	10/4/14	WM	Harrisburg I	10/18/14	10/17/15
Lehi		6/20/14	5/31/15	Copenhagen		12/12/13	12/12/14		Louisville KSC	2/8/14	12/31/14
Louisville KSC		11/28/13	12/31/14	Grand Rapids Cel		10/4/13	10/4/14		Philadelphia FI	4/12/14	1/1/15
Louisville KSC		2/8/14	11/28/14	Jersey City		9/23/14	2/28/15		Sioux Falls	3/1/14	1/31/15
Moscow BFC		10/15/13	10/31/14	Kuwait SCK		10/4/13	10/4/14	WOTA	Hutchinson	8/28/14	8/31/15
Orlando SC		10/4/13	8/31/15	Moscow BFC		8/22/14	8/22/15		Parker	5/2/14	12/31/14
Parker		10/4/13	10/4/14	Paris Geo		10/4/13	10/4/14		Sudbury	3/6/14	3/31/15
Philadelphia FI		1/1/14	12/31/14	San Antonio 3D AMC		10/4/13	10/4/14	WTP	Hutchinson	2/12/14	2/11/15
Saint Félicien		5/1/14	5/1/15	Shreveport		10/4/13	10/4/14		Saint Augustine	1/3/14	1/2/15
Saint Louis SC		1/15/14	1/15/15	Sinsheim		10/4/13	10/4/14		Saint Augustine	1/6/14	1/5/15
Seattle PSC 2		10/4/13	10/4/14	Gatineau		5/1/14	4/30/15	WWDP3D	Davenport Put	8/21/14	8/31/15
Seoul 63		9/1/13	12/31/14	Raleigh		2/2/14	4/2/15		Philadelphia FI	7/1/14	12/31/14
Spokane RP		5/15/14	5/15/15	Washington NMNH		3/15/13	3/31/15		Portland OMSI	8/22/14	8/22/15
Stockholm		11/29/13	11/29/14	Charlotte DP		4/25/14	4/24/15	ZionCany	Zion	7/1/08	
Tijuana		11/28/13	11/28/14	Peoria RM		9/18/14	9/17/15				

Oct.-Nov. 2014 by Theater

Theater	Film	Open	Close	Theater	Film	Open	Close	Theater	Film	Open	Close
Aguascalientes	HidUniv	2/28/14	2/27/15	Charlotte DP	D-Day	8/22/14	12/31/14		JTTSP	2/14/14	2/13/15
Al Khobar	Rescue	6/6/13	12/14/15		JTTSP	6/13/14	6/12/15		MOTUW	11/1/13	10/31/14
	TOTIA	6/1/14	6/1/15	Chattanooga TA	VanGogh	4/25/14	4/24/15	Des Moines	PTJH	6/1/14	5/31/15
Albuquerque NMNH	Jerusale	3/2/14	12/31/14		FOTB	10/5/12	10/1/14		FlyMons	10/1/14	5/30/15
	MOTUW	1/2/14	1/1/15		G3DNW	5/23/14	5/31/15		GWS	6/6/14	12/31/15
	PTJH	8/29/14	9/28/15		JTTSP	3/7/14	3/6/15		Interste	11/4/14	12/14
Alexandria BA	CV	10/1/13	12/31/14		TOTIA	10/3/14	10/3/15	Detroit MSC	IOLM	4/4/14	
	MOTN	10/1/13	12/31/14	Chicago Imx	GWS	10/4/13	10/4/14		FOTB	1/11/14	6/30/15
Amman	Bugs	10/20/13	10/20/14		Interste	11/4/14	12/14		JTTSP	6/14/14	6/13/15
Apple Valley Imx	G3DNW	10/3/14	4/2/15		IOLM	4/4/14			LBC	1/1/14	2/15
	Interste	11/4/14	12/14		TA	9/12/14	9/12/15		MOTGL	12/26/12	12/31/14
	IOLM	4/4/14		Chicago MSI	D-Day	5/23/14	12/31/14		TOTIA	9/26/14	9/26/15
Athens Eug	Everest	10/1/13	10/31/14	Cincinnati MC	FOTB	2/14/13	6/20/15	Dongguan STM	Rescue	3/14/14	2/28/15
Atlanta FMNH	G3DNW	10/17/14	3/31/15		HidUniv	6/13/14	10/12/14	Edmonton TWS	Bugs	12/26/13	12/31/14
	GWS	6/13/14	6/30/15		Jerusale	10/10/14	10/9/15		D-Day	5/23/14	12/31/14
	IOLM	4/4/14			JTTSP	1/17/14	1/16/15		FlyMons	12/26/13	12/12/14
	JTTSP	1/24/14	1/13/15	Cleveland	FOTB	11/27/13	11/26/14		FON	12/26/13	12/31/14
	PTJH	9/1/14	11/30/14		IOLM	4/4/14			FOTB	12/26/13	12/31/14
Atlantic City	IOLM	4/4/14			JTTSP	5/23/14	5/22/15		IOLM	4/4/14	
Auckland Sky	EarthWin	2/14	2/15		PTJH	11/26/14	11/25/15		Jerusale	12/26/13	12/31/14
Austin TSHM	D-Day	5/1/14	12/31/14	Columbus COSI	FON	8/1/14	7/30/15		Meerkats	12/26/13	12/31/14
	Interste	11/4/14	12/14		FOTB	9/1/14	6/30/15		PTJH	9/26/14	9/25/15
	TOTIA	11/1/13	11/1/14		GWS	6/1/14	8/1/15	Erie	SeaMonst	12/26/13	12/31/14
Baltimore MSC	Penguins	6/22/14	6/30/15		L&C	8/1/14	7/30/15		GWS	6/6/14	6/30/15
	TOTIA	2/1/14	2/1/15		MOTUW	11/19/14	11/18/15		MOTGL	1/1/14	12/31/14
Bangkok Par Maj	IOLM	5/29/14			Penguins	9/21/13	6/5/15		MOTUW	3/14/14	3/13/15
Bangkok Pin Maj	IOLM	5/29/14			PTJH	5/1/14	4/30/15		TOTIA	10/4/13	10/4/14
Bangkok Rat Maj	IOLM	5/29/14			TOTIA	9/15/14	5/31/15	Fort Lauderdale	FOTB	2/8/13	2/7/15
Baton Rouge LASM	DPTP	9/12	9/15	Columbus GA NIM	D-Day	5/23/14	12/31/14		Interste	11/4/14	12/14
Beijing 3D CSTM	HOTB	10/15/14	10/15/15		IOLM	4/4/14			IOLM	4/4/14	
Beijing CFM	JTM	1/1/14	12/31/14		Jerusale	10/18/13	10/17/14		JTTSP	1/17/14	1/16/15
	Penguins	1/1/14	1/1/15	Copenhagen	Bugs	3/1/13	3/31/15	Fort Worth	IOLM	4/4/14	
	Rescue	1/14	1/15		D-Day	4/7/14	12/31/14		Jerusale	9/5/14	2/28/15
Beijing Dome CSTM	LivingSe	1/1/14	1/1/15		G3DNW	2/8/14	2/7/15	Galveston	G3DNW	5/24/14	12/31/14
Berlin CS	G3DNW	4/20/14	10/19/15		MOTUW	6/19/14	6/18/15		GWS	6/28/14	6/30/15
	TTA	9/6/13	6/30/15		TOTIA	12/12/13	12/12/14		JTTSP	2/14/14	2/13/15
Birmingham AL	IOLM	4/4/14			TTA	12/12/13	12/12/14		LBC	1/1/14	2/15
	Jerusale	5/23/14	11/23/15	Corpus Christi Lex	FightPil	5/12/12	7/15		Penguins	3/4/14	12/31/14
	TA	1/6/14	1/6/15	Dallas PMNS	Bugs	8/20/13	8/13/15		TOTIA	11/15/13	11/15/14
	TOTIA	11/5/13	11/5/14		FOTB	5/28/14	10/31/14	Garden City	MOTUW	9/2/14	9/1/15
Birmingham UK	GWS	9/24/13	12/31/14		G3DNW	9/1/14	5/31/15	Garza Garcia	Penguins	6/12/14	12/12/14
	Penguins	11/1/13	10/31/14		MOTUW	11/1/13	10/31/14	Gatineau	D-Day	4/4/14	12/31/14
	SpacJunk	1/1/12	1/1/15		PTJH	5/23/14	5/22/15		DPTP	11/1/14	12/14
	TOTIA	9/24/13	12/31/14		TOTIA	11/15/13	11/15/14		FOTB	10/5/12	10/4/15
Bogota Mal	FOTB	4/1/13	2/1/15	Davenport Put	Alps	2/22/14	2/22/15		G3DNW	10/10/14	4/9/15
Boston MOS	HumanBod	11/16/13	11/15/14		G3DNW	10/17/14	10/16/15		GCA	5/1/13	3/30/15
	JTTSP	1/17/14	1/23/15		GCA	10/3/14	10/2/15		Kenya	9/27/13	3/31/15
	MOTM	10/1/14	6/30/15		Jerusale	11/8/13	10/31/14		Penguins	12/20/13	12/19/14
	PTJH	5/1/14	4/30/15		L&C	2/22/14	2/22/15		PTJH	5/9/14	5/8/15
	RME	5/1/13	10/31/14		LastReef	2/1/13	2/1/15		UWT3D	5/1/14	4/30/15
Boston NEA	IOLM	4/4/14			MOTUW	2/1/14	2/1/15	Glasgow	HidUniv	5/2/14	5/1/15
	Penguins	5/24/13	1/1/15		PTJH	7/17/14	7/16/15	Grand Canyon DCI	GC	11/1/99	12/14
Bradford	Interste	11/4/14	12/14		Rescue	6/24/12	3/31/15	Grand Rapids Cel	Jerusale	10/18/13	12/31/14
Branson	GWS	3/1/14	3/1/15		SeaMonst	2/22/14	2/22/15		MOTGL	10/1/12	12/31/14
	Interste	11/4/14	12/14		TOTIA	2/1/14	2/1/15		TTA	10/4/13	10/4/14
	IOLM	4/4/14		Dayton	WWDPP3D	8/21/14	8/31/15	Greensboro	FOTB	6/1/13	1/9/15
	Jerusale	3/1/14	6/2/15		D-Day	5/24/14	12/31/14		LBC	1/1/14	12/14
	Ozarks	9/93	12/14		FightPil	3/1/13	6/30/15	Guangzhou MoW	SpacJunk	5/1/13	10/31/14
Budapest CC	G3DNW	4/24/14	4/23/15		HidUniv	5/1/14	4/30/15	Guayaquil	Dragons	5/1/14	5/5/15
	TTA	10/4/13	10/4/14	Dearborn THF	D-Day	3/28/14	12/31/14		EarthWin	3/14	2/15
Calgary TS	FOTB	6/18/13	12/31/14		FOTB	2/18/13	6/12/15		G3DNW	4/20/14	4/19/15
	MOTUW	7/1/14			Interste	11/4/14	12/14	Hague	Jerusale	3/31/14	3/30/15
Chandigarh	AIWC	9/5/14	9/4/15		Jerusale	2/8/14	2/7/15		JTTSP	7/1/14	6/30/15
Chantilly	D-Day	5/23/14	12/31/14		Penguins	4/18/14	4/17/15	Hampton VASC	D-Day	5/23/14	12/31/14
	FightPil	12/10/04	7/15	Denver MNS	D-Day	5/24/14	12/31/14		FOTB	3/29/13	12/31/14
	Interste	11/4/14	12/14		IOLM	6/6/14			HidUniv	10/12/13	10/11/14
Charleston CCAS	ROF	7/6/14	11/2/14		Jerusale	2/14/14	2/13/15		IOLM	4/4/14	

Theater	Film	Open	Close	Theater	Film	Open	Close	Theater	Film	Open	Close	
Harrisburg	FOTB	10/18/14	1/31/15	Lucerne	HidUniv	9/12/14	3/11/15	Poitiers Imax	Everest	5/31/14	1/31/15	
	GCA	11/1/14	12/31/15		PTJH	6/1/14	5/31/15	Port of Spain	FON	10/15/14	10/15/15	
	Jerusale	10/18/14	9/30/15		G3DNW	6/5/14	6/4/15		JTTSP	2/6/14	2/5/15	
	JTTSP	10/18/14	1/23/15		LastReef	6/7/13		Portage Cel	MOTGL	10/1/12	12/31/14	
Harrisburg I Hartberg	TOTIA	10/18/14	5/31/15	Lucknow McMinnville	Penguins	3/14/14	3/13/15	Portland OMSI	FlyMons	5/22/14	5/21/15	
	WM	10/18/14	10/17/15		PTJH	9/1/14	9/1/15		MOTUW	11/29/13	11/17/14	
	Amazon	10/1/13	12/31/14		ToFly	5/1/14	11/30/14		Mummies	1/1/14	1/1/15	
	CRA	10/1/13	12/31/14		D-Day	5/23/14	12/31/14		WildOcea	1/15/14	1/15/15	
Hartford CSC Hastings	DIA	10/1/13	12/31/14	Melbourne MV	FightPil	3/23/12	7/1/15	Portland OMSI I	WWDP3D	8/22/14	8/22/15	
	Everest	10/1/13	12/31/14		LOF	3/23/12	6/18/15	Poznan CC	GWS	11/29/13	11/29/14	
	LivingSe	10/1/13	12/31/14		Rescue	6/1/12	5/31/15		AfricAdv	10/4/13	10/3/15	
	MOTUW	9/13/14	9/12/15		Bugs	9/1/14	9/30/15		G3DNW	6/18/14	9/18/15	
Hat Yai Maj Hong Kong SM	D-Day	10/16/14	12/31/14	Memphis Pink	FOTB	3/21/13	3/20/15	Prague CC	G3DNW	5/22/14	5/21/15	
	FOTB	3/17/13	6/12/15		GWS	12/31/13	12/31/14	Quebec	JTTSP	2/14/14	2/13/15	
	Jerusale	11/7/13	11/6/14		Interste	11/4/14	12/14		IOLM	4/4/14		
	MOTUW	6/3/14	6/2/15		IOLM	6/19/14			LastReef	10/15/12	10/4/14	
Houston MNS	SpacJunk	9/13/13		Mexicali Mexico City Pap	Jerusale	8/28/14	8/27/15	Raleigh	D-Day	5/23/14	12/31/14	
	TA	1/15/14	6/30/15		MOTUW	3/24/14	3/24/15		FOTB	10/19/12	6/30/15	
	TOTIA	2/1/13	6/30/15		Penguins	9/1/14	10/18/14		HidUniv	11/7/14	11/6/15	
	IOLM	5/29/14			FOTB	3/1/14	5/22/15		Interste	11/6/14		
Huntsville USSRC	FOTB	5/1/14	10/1/14	Milwaukee	Jerusale	4/12/14	5/22/15	Regina	IOLM	4/4/14		
	HidUniv	7/1/14	12/31/14		LBC	11/14	2/15			Jerusale	2/21/14	2/20/15
	D-Day	5/23/14	12/31/14		TA	3/8/14	3/8/15			JTTSP	12/21/13	12/20/14
	FOTB	10/5/12	6/30/15		Arabia3D	3/28/14	3/27/15			MOTUW	11/1/13	10/31/14
Hutchinson	G3DNW	2/15/14	12/31/14	Moscow BFC	MOTUW	11/15/14		Saint Augustine	UWT3D	2/2/14	4/2/15	
	GWS	8/2/13	7/31/15		PTJH	4/1/14	12/31/14			FOTB	1/18/14	1/17/15
	Jerusale	10/4/13	10/1/14		MOTUW	10/1/14				IOLM	4/4/14	
	PTJH	6/6/14	6/5/15		PTJH	6/13/14	6/12/15			JTTSP	10/3/14	10/2/15
Indianapolis Imx	TOTIA	1/25/13	6/30/15	Mobile	SeaMonst	3/1/14	6/1/15	Richmond SMV	GWS	3/15/14	3/15/15	
	D-Day	4/11/14	12/31/14		WildOcea	11/29/13	11/29/14			JTTSP	7/1/14	6/30/15
	FightPil	7/1/13	7/1/15		FOTB	1/14/14	8/31/15			L&C	9/1/14	8/31/15
	Interste	11/4/14	12/14		Jerusale	9/1/14	1/31/15			PTJH	7/15/14	7/14/15
Jersey City	MOTUW	7/1/14	12/31/14	Montreal SC	SpacJunk	4/1/14	10/31/14	Sacramento Imx	FOTB	8/13/13	6/30/15	
	D-Day	4/21/14	12/31/14		G3DNW	2/10/14	2/9/15			Interste	11/4/14	12/14
	GWS	5/1/14	5/31/15		IOLM	4/28/14				IOLM	4/4/14	
	SpacJunk	10/31/14	10/30/15		Jerusale	10/10/14	10/9/15			D-Day	5/23/14	12/31/14
Kagawa	TOTIA	3/1/13	6/30/15	Mumbai New Delhi ICC New Orleans	TOTIA	10/15/13	10/31/14	Saint Paul SMM Salt Lake City Clark	FOTB	1/18/13	12/31/14	
	WOTA	8/28/14	8/31/15		TTA	8/22/14	8/22/15			GWS	8/9/13	9/8/15
	WTP	2/12/14	2/11/15		ToFly	6/1/14	12/31/14			IOLM	4/4/14	
	D-Day	5/9/14	12/31/14		ND					Jerusale	2/28/14	2/27/15
Kansas City Sci	Interste	11/4/14	12/14	New York AMNH New York Emp AMC Niagara Can DCI Niagara NY DCI Norwalk	D-Day	9/1/14	12/31/14	Saint Félicien Saint Louis Arch Saint Louis SC	JTTSP	8/1/13	7/31/15	
	IOLM	4/4/14			D-Day	9/15/13	11/15/14			WTP	1/3/14	1/2/15
	LastReef	10/4/13	10/4/14		IOLM	4/4/14				WTP	1/6/14	1/5/15
	Penguins	6/27/14	12/26/14		Kenya	5/30/14	12/31/14			TOTIA	5/1/14	5/1/15
Karlsruhe Katoomba Katowice CC	TOTIA	11/15/13	11/15/14	Orlando SC	GWS	7/7/14	1/7/15	San Antonio 2D AMC San Antonio 3D AMC	L&C	1/13	2/15	
	DPTP	10/13	5/15		IOLM	4/4/14				D-Day	4/25/14	12/31/14
	G3DNW	7/4/14	1/3/15		Niagara	7/1/86				IOLM	5/23/14	
	GWS	10/4/13	10/4/14		Niagara	5/1/07				MOTUW	10/9/14	5/30/15
Killeen Kolkata SC Koriyama Krakow CC	IOLM	4/4/14		Paris Geo	GWS	10/4/13	10/4/14	San Diego RHF	TOTIA	1/15/14	1/15/15	
	MOTUW	7/4/14	7/3/15		IOLM	4/4/14				FOTB	10/1/14	6/1/15
	Penguins	6/28/13	1/15/15		JTTSP	7/1/14	10/8/15			FOTB	2/8/13	8/8/15
	TTA	9/23/14	2/28/15		G3DNW	10/15/14	10/14/15			HidUniv	7/18/14	7/17/15
Kuwait SCK	PTJH	8/29/14	2/28/15	Penrith	PTJH	8/29/14	2/28/15	Seoul 63	IOLM	4/4/14	4/3/15	
	Penguins	10/1/14	4/12/15		IOLM	4/4/14				Jerusale	11/22/13	1/1/15
	TA	4/5/13	10/5/14		JTTSP	11/2/14	11/1/15			LBC	11/14	2/15
	G3DNW	10/6/14	8/31/15		FOTB	3/1/14	2/28/15			PTJH	10/10/14	10/9/15
La Coruna Lansing Cel Las Palmas Lehi	G3DNW	10/6/14	8/31/15	Pensacola NAM	G3DNW	7/5/14	1/14/15	Shanghai Dome STM Shreveport	Alamo			
	WATE	6/1/97			HidUniv	6/13/14	10/12/14			LastReef	10/4/13	10/4/14
	AfricAdv	10/4/13	10/3/15		MOTUW	11/1/13	11/30/14			TTA	10/4/13	10/4/14
	G3DNW	6/18/14	9/18/15		PTJH	6/7/14	6/30/15			DS3D	11/13	10/14
Lodz CC	DPTP	5/12	5/15	Pittsburgh CSC	TOTIA	10/4/13	8/31/15	Singapore DC Sinsheim Sioux Falls	FON	11/14	12/14	
	Greece	1/15/14	1/14/15		D-Day	12/2/14	12/31/15			FOTB	10/12/12	6/30/15
	DPTP	11/13	11/14		GCA	7/1/14	6/30/15			HidUniv	7/4/14	7/3/15
	AfricAdv	10/4/13	10/3/15		HidUniv	10/3/14	10/2/15			JTTSP	2/14/14	2/13/15
London BFI	G3DNW	6/18/14	9/18/15	Phoenix ASC	Jerusale	10/15/13	10/14/14	Speyer Dome	MOTN	11/14	12/14	
	FMTTM	4/17/14	10/15/14		JTTSP	5/16/14	5/15/15			MOTUW	11/8/13	10/31/14
	G3DNW	10/3/14	4/2/15		TTA	10/4/13	10/4/14			Mummies	6/1/14	6/30/15
	GWS	10/15/13	10/15/14		FlyMons	8/14/14	2/27/15			FOTB	2/9/13	6/30/15
London SM	MOTUW	1/27/14	2/1/15	Philadelphia FI	TOTIA	10/4/13	10/4/14	Singapore DC Sinsheim Sioux Falls	Interste	11/4/14	12/14	
	Penguins	8/9/13	11/8/14		WOTA	5/2/14	12/31/14			IOLM	4/4/14	
	TTA	10/4/13	10/4/14		PTJH	9/8/14	3/1/15			JTTSP	1/11/14	6/30/15
	LOF	12/1/13	12/1/14		Rheged	7/1/00				MOTUW	8/30/14	9/1/15
Los Angeles CSC	MOTGL	10/1/12	12/31/14	Pittsburgh CSC	D-Day	10/1/14	3/31/15	Seattle PSC 1 Seattle PSC 2	HCBDT	8/17/96		
	LOF	3/15/13	2/28/15		FightPil	6/8/11	7/15			GWS	9/19/14	9/19/16
	D-Day	5/23/14	12/31/14		IOLM	4/4/14				D-Day	3/29/14	12/31/14
	Jerusale	10/18/13	10/17/14		LBC	11/14	12/14			FightPil	6/14/13	6/14/15
Louisville KSC	MOTUW	12/20/13	12/19/14	Portland OMSI	IOLM	4/4/14		Shanghai Dome STM Shreveport	HidUniv	1/10/14	1/9/15	
	TOTIA	6/20/14	5/31/15		MOF	11/8/96				Interste	11/4/14	12/14
	AfricAdv	10/4/13	10/3/15		RME	10/1/14	3/31/15			IOLM	4/4/14	
	G3DNW	6/18/14	9/18/15		GWS	7/1/14	7/1/15			JTTSP	10/3/14	10/2/15
Lubbock SS	Bugs	9/1/14	9/30/15	Portland OMSI I Poznan CC	LastReef	2/1/14	10/31/14	Singapore DC Sinsheim Sioux Falls	TTA	10/4/13	10/4/14	
	Interste	11/4/14	12/14		VanGogh	9/18/14	9/17/15			D-Day	4/1/14	12/31/14
	Jerusale	1/1/14	12/31/14		GWS	7/1/14	7/1/15			TTA	10/4/13	10/4/14
	Interste	11/4/14	12/14		Interste	11/4/14	12/14			D-Day	5/1/14	12/31/14
Lubbock SS	MOTUW	8/1/14	7/31/15	Portland OMSI I Poznan CC	MOTUW	7/1/14	6/30/15	Singapore DC Sinsheim Sioux Falls	DPTP	4/14	12/14	
	G3DNW	10/1/14	2/28/15		TOTIA	1/1/14	12/31/14			LastReef	10/1/12	10/10/14
	IOLM	4/4/14			WM	4/12/14	1/1/15			LBC	11/14	12/14
	D-Day	5/23/14	12/31/14		WWDP3D	7/1/14	12/31/14			TinyGian	9/1/14	9/1/15
Lubbock SS	DPTP	6/14	7/16	Portland OMSI I Poznan CC	G3DNW	11/22/14	11/21/15	Speyer Dome	WM	3/1/14	1/31/15	
	LastReef	2/8/14	1/9/15		GWS	9/1/14	9/1/15			Jerusale	12/12/13	12/11/14
	PTJH	7/4/14	7/3/15		LastReef	1/18/14	1/18/15					
	TA	2/8/14	1/10/15		Animalop	1/1/10						
Lubbock SS	TOTIA	11/28/13	12/31/14	Portland OMSI I Poznan CC	FON	6/1/13	12/31/14	Speyer Dome				
	TOTIA	2/8/14	11/28/14		FOTB	3/15/13	12/31/14					
	WM	2/8/14	12/31/14		GWS	6/13/14	6/30/15					
	D-Day	5/1/14	12/31/14		Jerusale	3/7/14	3/6/15					
Lubbock SS	DPTP	1/14	12/14	Portland OMSI I Poznan CC	MOTUW	1/2/14	1/1/15	Speyer Dome				
	G3DNW	11/7/14	6/6/15									

Theater	Film	Open	Close	Theater	Film	Open	Close	Theater	Film	Open	Close
Spokane RP	IOLM	4/4/14		Tallahassee CLC	DPTP	9/12	6/15	Victoria DCI	JTTSP	5/17/14	
	Kenya	3/1/14	12/31/14		FOTB	1/18/13	12/31/14		D-Day	3/21/14	12/31/14
	TOTIA	5/15/14	5/15/15		GWS	6/15/13	1/17/15		FOTB	4/5/13	6/30/15
Stockholm	FlyMons	5/19/13	12/31/14	Tampa MOSI	HidUniv	2/14/14	2/13/15	Virginia Beach AMSC	GWS	1/14/14	1/14/15
	G3DNW	9/30/14	8/31/15		IOLM	4/4/14			HidUniv	10/25/13	10/24/14
	HidUniv	9/15/13	12/31/14		LastReef	1/17/14	1/17/15		IOLM	5/16/14	
Sudbury	HumanBod	1/1/12	12/31/14	Tijuana	SpacJunk	2/10/12	3/18/15	Warsaw CC	Jerusale	8/8/14	7/31/15
	JTTSP	2/14/14	2/13/15		DinoAliv	2/7/14	2/4/15		JTTSP	11/14/14	2/13/15
	TOTIA	11/29/13	11/29/14		FOTB	2/8/13	6/30/15	Washington NASM	TOTIA	8/30/13	5/31/15
Suzhou SCAC	FOTB	6/17/13	7/30/15	Toronto OSC	HidUniv	10/25/13	10/24/14		GWS	5/29/14	5/31/15
	IOLM	4/4/14			Interste	11/4/14	12/14		EarthWin	3/14	2/15
	Jerusale	4/19/14	4/13/15	Toulouse CDE	IOLM	4/4/14		Yellowstone	Vulcania	2/22/02	
Sydney WBS	PTJH	10/9/14	8/31/15		PTJH	6/28/14	6/27/15		AfricAdv	10/4/13	10/3/15
	WOTA	3/6/14	3/31/15		G3DNW	10/25/14	10/24/15	Washington NMNH	G3DNW	6/18/14	9/18/15
	FOTB	3/31/14	3/31/15	Valencia Spn	TOTIA	11/28/13	11/28/14		D-Day	5/23/14	12/31/14
Syracuse MOST	Bugs	8/6/14	8/6/15		FOTB	4/8/13	10/31/14		Interste	11/4/14	12/14
	D-Day	9/4/14	12/31/14	Vancouver TWS	GWS	10/4/13	10/4/14	Zion	ToFly	7/1/76	
	DinoAliv	12/30/13	12/30/14		Jerusale	3/7/14	12/31/14		IOLM	4/4/14	
Taichung NMNS	GWS	12/30/13	12/30/14		HidUniv	2/1/14	1/31/15	ZionCany	L&C	1/1/13	12/31/14
	Interste	11/4/14	12/14	Zion	HidUniv	4/1/14	3/31/15		MOTUW	9/26/14	9/25/15
	Jerusale	2/1/14	1/31/15		MOTN	1/1/12	12/31/14		TOTIA	10/18/13	10/31/14
Taipei MCRC	MOTUW	2/14/14	2/15/15		MOTUW	7/1/14	6/30/15		UWT3D	3/15/13	3/31/15
	IOLM	4/4/14			Bugs	3/1/06	6/30/15		TOTIA	5/1/14	5/31/15
	SAA	7/1/14	6/30/15		FOTB	3/6/13	12/31/14				
	Sharks3D	1/1/14	12/31/14		HidUniv	10/11/14	10/10/15				

Key to Film Abbreviations

Film	Title	Year	Dist	Film	Title	Year	Dist
AfricAdv	African Adventure 3D	2007	3D	nWP	Niagara	1987	NGD
AIWC	Adventures in Wild California	2000		MFF	Ozarks	1993	IMAX
Alamo	Alamo: The Price of Freedom	1988		MFF	Penguins	2013	3D
Alps	Alps: Giants of Nature, The	2007		NGD	PTJH	2014	3D
Amazon	Amazon	1997		MFF	Pandas: The Journey Home	2011	3D
Animalop	Animalopolis	2008	3D	K2	Rescue 3D	2000	unk
Arabia3D	Arabia 3D	2010	3D	MFF	Rheged	2011	SLC
Bugs	Bugs!	2003	3D	SKF	Rocky Mountain Express	1991	MFF
CRA	Coral Reef Adventure	2003		MFF	Ring of Fire	2001	NGD
CV	Cosmic Voyage	1996		IMAX	Shackleton's Antarctic Adventure	2007	NGD
D-Day	D-Day: Normandy 1944	2014	3D	3DED	Sea Monst	2004	3D
DIA	Dream is Alive, The	1985		IMAX	Sharks 3D	2012	3D
DinoAliv	Dinosaurs Alive	2007	3D	GSF	Space Junk	2011	3D
DPTP	Dinosaur Passage to Pangaea	2011	3D	CGI	TA	2014	3D
Dragons	Dragons: Real Myths and Unreal Creatures	2013	3D	B&D	TinyGian	1976	MFF
DS3D	Deep Sea 3D	2006	3D	IMAX	ToFly	2013	3D
EarthWin	Earth Wins, The	2013		HFL	TOTIA	2012	3D
Everest	Everest	1998		MFF	TTA	2010	3D
FightPil	Fighter Pilot: Operation Red Flag	2004	3D	K2	UWT3D	2009	MFF
FlyMons	Flying Monsters 3D	2011	3D	NGD	VanGogh	2002	unk
FMTTM	Fly Me to the Moon	2008	3D	nWP	Vulcania	1997	MSI
FON	Forces of Nature	2004		NGD	WATE	2008	3D
FOTB	Flight of the Butterflies	2012	3D	SKF	WildOcea	2013	3D
G3DNW	Galapagos 3D: Nature's Wonderland	2014	3D	nWP	WM	2014	3D
GC	Grand Canyon: The Hidden Secrets	1985		NGD	WOTA	2013	ISP
GCA	Grand Canyon Adventure: River at Risk 3D	2008	3D	MFF	WTP	2014	3D
GP	Greatest Places, The	1998		MFF	WWDPP3D	1994	K2
Greece	Greece: Secrets of the Past	2006		MFF	ZionCany		
GWS	Great White Shark	2013	3D	GSF			
HaunCast	Haunted Castle	2001	3D	nWP			
HCBTD	Hearst Castle: Building the Dream	1996		NGD			
HidUniv	Hidden Universe	2013	3D	MFF			
HOTB	Hurricane on the Bayou	2006		MFF			
HumanBod	Human Body, The	2001		NGD			
Interste	Interstellar	2014		PPC			
IOLM	Island of Lemurs: Madagascar	2014	3D	IMAX			
Jerusale	Jerusalem	2013	3D	NGD			
JTM	Journey to Mecca	2009		SKF			
JTTSP	Journey to the South Pacific	2013	3D	MFF			
Kenya	Kenya 3D: Animal Kingdom	2013	3D	3DED			
L&C	Lewis & Clark: Great Journey West	2002		NGD			
LastReef	Last Reef, The	2012	3D	GSF			
LBC	Light Before Christmas, The	2008		CGI			
LivingSe	Living Sea, The	1994		MFF			
LOF	Legends of Flight	2010	3D	K2			
Meerkats	Meerkats 3D	2012	3D	NGD			
MOF	Magic of Flight, The	1997		MFF			
MOTGL	Mysteries of the Great Lakes	2008		SN			
MOTM	Mystery of the Maya	1995		BFI			
MOTN	Mystery of the Nile	2005		MFF			
MOTUW	Mysteries of the Unseen World	2013	3D	NGD			
Mummies	Mummies: Secrets of the Pharaohs	2007		GSF			
ND	Neelkanth Darshan	2005		unk			

Oct.-Nov. 2014 Bookings Count

#	Film	#	Film	#	Film	#	Film
46	IOLM	6	TA	2	DinoAliv	1	GC
38	FOTB	5	AfricAdv	2	HumanBod	1	GP
35	TOTIA	5	FlyMons	2	LivingSe	1	Greece
33	D-Day	5	FON	2	Mummies	1	HaunCast
31	Jerusale	5	L&C	2	Niagara	1	HCBTD
30	G3DNW	5	MOTGL	2	RME	1	HOTB
30	MOTUW	5	Rescue	2	VanGogh	1	JTM
28	GWS	4	GCA	2	WildOcea	1	Meerkats
28	JTTSP	4	WM	1	AIWC	1	MOF
23	PTJH	3	EarthWin	1	Alamo	1	MOTM
22	Interste	3	Everest	1	Alps	1	ND
20	HidUniv	3	Kenya	1	Amazon	1	Ozarks
16	Penguins	3	LOF	1	Animalop	1	Rheged
11	TTA	3	MOTN	1	Arabia3D	1	ROF
10	LastReef	3	SeaMonst	1	CRA	1	SAA
9	DPTP	3	ToFly	1	CV	1	Sharks3D
8	Bugs	3	UWT3D	1	DIA	1	TinyGian
7	FightPil	3	WOTA	1	Dragons	1	Vulcania
7	LBC	3	WTP	1	DS3D	1	WATE
6	SpacJunk	3	WWDPP3D	1	FMTTM	1	ZionCany

Directory of Organizations Mentioned in this Issue of LF Examiner

Distributors' abbreviations are listed in **bold**.

3D Entertainment Distribution Ltd. 3DED Ibex House 61-65 Baker Street Weybridge, Surrey KT13 8AH UNITED KINGDOM Tel: +44 20-7681-2357 Fax: +44 20-7681-2357 www.3DEFilms.com 3D Entertainment Films Ltd. Ibex House 61-65 Baker Street Weybridge, Surrey KT13 8AH UNITED KINGDOM Tel: +44 20-7681-2357 Fax: +44 20-7681-2357 www.3DEFilms.com Adler Planetarium and Astronomy Museum 1300 South Lake Shore Drive Chicago, IL 60605 USA www.adlerplanetarium.org AMC Entertainment Inc. 11500 Ash St. Leawood, KS 66211-7804 USA Tel: 816-221-4000 Fax: 816-480-4617 www.amctheatres.com/ AMC Metreon 16 & IMAX 101 Fourth St San Francisco, CA 94103 USA Tel: 816-699-6210 www.amctheatres.com/ AMC Universal Citywalk Stadium 19 & IMAX 100 Universal City Plaza Universal City, CA 91608 USA Tel: 816-760-8100 www.amctheatres.com/ Amtrex Corporation 617 Route 303 Blauvelt, NY 10913 USA Tel: 914-353-1400 Fax: 914-425-1250 www.art.com Association of Science-Technology Centers Inc. 1025 Vermont Ave. NW, Suite 500 Washington, DC 20005-3516 USA Tel: 202-783-7200 Fax: 202-783-7207 www.astc.org Atlantic Productions Brook Green House 4 Rowan Road, Hammersmith London, W6 7DU UNITED KINGDOM Tel: +44 20 8735 9300 Fax: +44 20 8735 9333 www.atlanticproductions.co.uk Barco NV Noordlaan 5 - Industriezone Kuurne, B-8520 BELGIUM Tel: +32 56 36 8211 Fax: +32 56 36 8486 www.edutainment.barco.com BBC Earth Media Centre, 201 Wood Lane 2nd Floor, MC2C6 London, W12 7TQ UNITED KINGDOM http://bbcearth.com/ Bengbu Wanda & IMAX 4th Fl., No. 4399 Donghai St. Bengshan District Bengbu, 230000 CHINA Tel: +86-552-3138666 www.wandafilm.com/ BIG & Digital B&D 2900 Sunridge Heights Pkwy., #1218 Henderson, NV 89052 USA Tel: 502-212-1559 http://biganddigital.com/ Big Films, Inc. BFI 1066 Boucher Crescent Manotick, ON K4M 1B3 CANADA Tel: 613-692-9856 Fax: 613-692-9857 www.bigfilms.ca Blaze Digital Cinema Works 1771 Post Road East, #164 Westport, CT 06880 USA Tel: 203-292-5745 Fax: 203-404-4998 http://blazedigitalcinema.com/	California Academy of Sciences 55 Music Concourse Drive Golden Gate Park San Francisco, CA 94118 USA www.calacademy.org Carmike Cinemas 1301 First Ave. Columbus, GA 31901 USA Tel: 706-576-3400 Fax: 706-576-3419 www.carmike.com CGV Changsha & IMAX Changsha, CHINA www.cgv.co.kr/ CGV Ningbo Cultural Square & IMAX 4th Fl, Cultural Sq 1888 Ningchuan Road Jiangdong District Ningbo, Zhejiang Prov. 315040 CHINA Tel: +86-574-87033588 www.cgv.co.kr/ CGV Shenyang Richgate IMAX 4th Fl., NO.168 Harbin St Shenhe Dist. Shenyang, 110000 CHINA www.cgv.co.kr/ Changchun Kuancheng Wanda & IMAX No.3366 N. Renmin St. Kuancheng District Changchun, 130000 CHINA www.wandafilm.com/ Changsha Kaifu Wanda & IMAX 5th/6th Fl, Entertainment Bldg Wanda Plaza, Mid Jiangxiang Rd Changsha, 410000 CHINA Tel: +86-731 88955988 www.wandafilm.com/ Chengdu Bravo Shuangliu & IMAX No.177, Baiyun Street Shuangliu Town Chengdu, 610299 CHINA Chengdu CGV & IMAX 4th Fl., No.183 Jiaoda District, Jinniu District Chengdu, 610000 CHINA Tel: +86-28-69185281 www.cgv.co.kr/ Chengdu Huanqiu Stellar & IMAX 4th Fl, Huanqiu Mall No.1700 North Tianfu Rd Chengdu, 610017 CHINA Chengdu Lumiere & IMAX 5th Fl., No. 21 Rongbei Business St Jinnui Dist. Chengdu, 610000 CHINA Tel: +86-28-85053141 www.lumia.com/ Chengdu UA IFC & IMAX 6th fl, NO. 1 Hongxing Rd Jinjiang Dist Chengdu, Sichuan Prov. 610021 CHINA www.uacinemass.com/cn Chenzhou Wanda & IMAX 5th Fl., Shengyuan Times Plaza Bayi Road Chenzhou, 423000 CHINA www.wandafilm.com/ Christie Digital Systems USA, Inc. 10550 Camden Drive Cypress, CA 90630 USA Tel: 714-236-8610 Fax: 714-229-7128 www.christiedigital.com Cine Grand Century & IMAX Level 4, Grand Century Place 193 Prince Edward Road West, Monkong Kowloon Hong Kong, 3104 1721 CHINA Cinema Development Company 3363 Enterprise Avenue Hayward, CA 94545 USA Tel: 510-783-7028 Fax: 510-783-7029 www.cinemadevelopmentcompany.com Cinema Group, Inc. CGI 464 S. Ranch Drive Alpine, UT 84004 USA Tel: 801-772-0860	Cinemark Holdings, Inc. 3900 Dallas Parkway South, Suite 500 Piano, TX 75093 USA Tel: 972-665-1000 www.cinemark.com Cineplex Entertainment, LP 1303 Yonge St. Toronto, ON M4T 2Y9 CANADA Tel: 416-323-6600 Fax: 416-323-6677 www.cineplex.com/ Cineplex Scotiabank Theatre Toronto & IMAX 259 Richmond St West Toronto, ON M5V3M6 CANADA Tel: 416-368-5600 www.cineplex.com/ Cineworld Group PLC Power Road Studios 114 Power Road, Chiswick London, London UNITED KINGDOM Tel: + 44 208 987 5000 www.cineworldplc.com/ Columbia Pictures COL 10202 W. Washington Blvd. Culver City, CA 90232 USA www.sonypictures.com/ Cradle of Aviation Museum One Davis Avenue Garden City, NY 11530 USA Tel: 516-572-4111 www.cradleofaviation.org D3D Cinema 990 Grove St., Suite 200 Evanston, IL 60201 USA Tel: 847-475-9140 Fax: 847-475-9145 www.d3dcinema.com/ Dalian Gaoxin Wanda & IMAX No.500, Huangpu Rd Gaoxin District Dalian, 116021 CHINA Tel: +86-411-39983999 www.wandafilm.com/ Dandong Wanda & IMAX 4th Floor, No.298 Jinshan Street Zhenxin District Dandong, 118001 CHINA Tel: +86-415-3865555 www.wandafilm.com/ Daqing Omnijoi & IMAX 5th floor, No.3, Zhongyuan Rd. Ranghulu District Daqing, 163458 CHINA Tel: +86-459-5989979 December Media Level 1, 462 City Rd South Melbourne, Victoria 3205 AUSTRALIA Tel: +61-3-9699 8911 Fax: +61-3-9699-8611 www.decembermedia.com.au Discovery Communications, Inc. One Discovery Place Silver Spring, MD 20910-3354 USA Tel: 240-662-0000 www.discovery.com/ Dolby Laboratories 100 Potrero Ave San Francisco, CA 94103-4813 USA Tel: 415-558-0200 Fax: 415-863-1373 www.dolby.com Dongguan Changan Wanda IMAX No.1 Middle of Dongmen Rd. Changan Dist. Dongguan, 523000 CHINA www.wandafilm.com/ EarthShip Productions 3806 Cross Creek Rd, Ste D Malibu, CA 90265 USA Tel: 310-317-9477 Fax: 310-317-9158	Electrosonic Systems, Inc. 3320 North San Fernando Boulevard Burbank, CA 91504 USA Tel: 818-566-3045 Fax: 818-566-7763 http://electrosonic.com Evans & Sutherland 770 Komars Drive Salt Lake City, UT 84108-1229 USA Tel: 801-588-1000 Fax: 801-588-4500 www.es.com Event Network 9606 Aero Drive, Ste 1000 San Diego, CA 92123 USA Tel: 858-222-6100 www.eventnetwork.com Foshan Jinyi & IMAX 3rd fl, Perennial Plaza, No. 45 North Guilan Rd Guicheng Street Foshan, 528200 CHINA Tel: +86-757 85132211 FotoKem Industries, Inc. 2801 W. Alameda Ave. Burbank, CA 91505-4582 USA Tel: 818-846-3101 Fax: 818-841-2130 www.fotokem.com Fushun Wanda & IMAX 4th Fl., No.56 Hunhe South Street Xinfu District Fushun, 113008 CHINA Tel: +86-24-52435678 www.wandafilm.com/ Gateway Arch 707 North First Street Saint Louis, MO 63102 USA Tel: 314-982-1545 Fax: 314-982-1432 www.nps.gov/jeff/ Giant Screen Cinema Association 624 Holly Springs Road Suite 243 Holly Springs, NC 27540 USA Tel: 919-346-1123 www.giantscreencinema.com Giant Screen Films GSF 990 Grove St., Suite 200 Evanston, IL 60201 USA Tel: 847-475-9140 Fax: 847-475-9145 www.gsfilms.com Guangxi Yongheng Winhand Jingzuan & IMAX 2nd/5th Fl, Landmark Hotel No.118 East Daxue Rd Nanning, 530000 CHINA Tel: +86-771 2707199 Guangzhou Fanyang & IMAX 5th Fl, Huihong Plaza No. 203 East Qinghe Rd, Panyu District Guangzhou, 511400 CHINA Guangzhou Wanda & IMAX 3F, No.503, Yuncheng East Road Wanda Plaza, Baiyun District Guangzhou, 510420 CHINA Tel: +86-20-36689666 www.wandafilm.com/ Guiyang Stellar International Cinema & IMAX Shop GF-31, Area G Huaguoyuan Shopping Mall, Nanming District Guiyang, 550001 CHINA Guiyang Wanda & IMAX Zhongda Plaza No.187 Guiwu North Rd., Dayingpo, Yunyan District Guiyang, 550001 CHINA www.wandafilm.com/ Haikou Zose & IMAX 2nd Fl, Guoxiu Plaza No.68 Guoxing Avenue Haikou, 570105 CHINA Tel: +86-898 65252905	Hanjie Wanda Plaza & IMAX 5th Fl, No.1 Chuhehan St Shuiguo Lake, Wuchang District Wuhan, Hubei Prov. 430000 CHINA www.wandafilm.com/ Haxi Wanda Plaza IMAX 3rd Fl, No.168 Zhongxing Ave Haxi Area, Nangang District Harbin, 150056 CHINA www.wandafilm.com/ Heliflms, Ltd. HFL PO Box 23498, Docklands Melbourne, VIC 8012 AUSTRALIA Tel: +61 3 9645 2394 Fax: +61 3 9646 5446 www.heliflms.com Houston Museum of Natural Science HMNS 5555 Hermann Park Drive Houston, TX 77030-1799 USA Tel: 713-639-4600 Fax: 713-523-4125 www.hmns.org Huizhou Kaishi & IMAX 4th fl., Kaisa Plaza No. 11 Huizhou Ave, Huichen Dist Huizhou, 516003 CHINA Tel: +86-752 2828287 Ian McLennan Consulting 1275 Haro Street, #404 Vancouver, BC V6E 1G1 CANADA Tel: 604-981-4790 Fax: 604-981-4790 www.ianmclennan.com Imax Corporation IMAX 2525 Speakman Drive Mississauga, ON L5K 1B1 CANADA Tel: 905-403-6500 Fax: 905-403-6450 www.imax.com IMERSA , USA www.imersa.org Iosono GmbH Erich-Kästner-Str. 1 Erfurt, 99094 GERMANY Tel: +49 361 / 51143 - 670 Fax: +49 361 / 51143 - 677 www.iosono-sound.com K2 Communications K2 880 Apollo Street, Suite 239 El Segundo, CA 90245 USA Tel: 310-524-9100 Fax: 310-524-1540 www.k2communications.com/ Kallisti Media 8530 Wilshire Blvd, Ste 550 Beverly Hills, CA 90211 USA http://kallistimedia.com/ Kinopolis Group Eeuwfeestlaan 20 Brussels, B-1020 BELGIUM Tel: +32-2-474 2600 Fax: +32-2-474 2616 www.kinopolis.com Large Screen Cinema Los Angeles, CA USA Laser Illuminated Projection Association 3081 Zanker Road San Jose, CA 95134 USA Tel: 408-577-1300 Fax: 408-577-1301 www.lipainfo.org Legendary Pictures 4000 Warner Blvd. Building 76 Burbank, CA 91522 USA www.legendarypictures.com Lionsgate LG 2700 Colorado Ave., Suite 200 Santa Monica, CA 90404 USA Tel: 310-255-3700 Fax: 310-255-3870 www.lionsgate.com	LucasFilm Ltd. PO Box 2009 San Rafael, CA 94912 USA Tel: 415-662-1800 Fax: 415-662-2437 www.lucasfilm.com MacGillivray Freeman Films, Inc. MFF PO Box 205 Laguna Beach, CA 92652 USA Tel: 949-494-1055 Fax: 949-494-2079 www.macgillivrayfilms.com Maritime Aquarium at Norwalk 10 North Water Street Norwalk, CT 06854 USA Tel: 203-852-0700 Fax: 203-838-5416 www.maritimeaquarium.org Marvel Studios 1600 Rosecrans Ave Manhattan Beach, CA 90266-3708 USA Tel: 310-550-3100 www.marvel.com/ MasterImage 3D, LLC 1327 Peartree Circle Oakville, ON L6M 2J3 CANADA Tel: 818-558-7900 Fax: 818-558-7908 www.masterimage3d.com/ McWane Science Center 200 19th street Birmingham, AL 35203-3116 USA Tel: 205-714-8300 Fax: 205-714-8400 www.mcwane.org Melrae Pictures 4047 Pillsbury Ave Minneapolis, MN 55409 USA www.melraepictures.com Metro-Goldwyn-Mayer MGM 245 N Beverly Dr Beverly Hills, CA 90210 USA Tel: 310-449 3000 www.mgm.com/ Michigan Science Center 5020 John R Street Detroit, MI 48202 USA Tel: 313-577-8400 Fax: 313-832-1623 http://michigansciencecenter.net/ Moody Gardens 1 Hope Blvd. Galveston, TX 77554 USA Tel: 409-744-4673 www.moodygardens.com Museum of Discovery and Science 401 SW Second St Fort Lauderdale, FL 33312 USA Tel: 954-467-6637 Fax: 954-467-0046 www.mods.org Nanjing Jiangnan Wanda & IMAX 5th Fl., No. 68 Zhushan Rd. Jiangning District Nanjing, 210000 CHINA Tel: +86-25 68132777 www.wandafilm.com/ Nanning Wanda & IMAX 3rd Fl, Bldg B, Yuehui Plaza No.18 Qingyun St, Xingning Dist. Nanning, 530012 CHINA Tel: +86-771 2617770 www.wandafilm.com/ National Air and Space Museum 6th & Independence Ave. SW Washington, DC 20560 USA Tel: 202-357-1675 Fax: 202-357-1652 www.nasm.si.edu/ National Geographic Studios 1145 17th Street, NW Washington, DC 20036 USA Tel: 202-857-7665 Fax: 202-775-6517 http://movies.nationalgeographic.com/movies/
--	--	---	---	---	--

Directory, cont'd

National Geographic Studios **NGD**
161 6th Avenue, 15th Floor
New York, NY 10013 USA
Tel: 212-224-8468
Fax: 212-741-0374
<http://movies.nationalgeographic.com/movies/>

National Media Museum
Bradford
Bradford, BD1 1NQ UNITED KINGDOM
Tel: +44-870-701-0200
Fax: +44-1-274-723-155
www.NationalMediaMuseum.org.uk

Necsel/Ushio
2826 Sycamore Way
Santa Clara, CA 95051 USA

nWave Pictures
282 Rue Des Allies
Brussels, B-1190 BELGIUM
Tel: +32 2 347 63 19
Fax: +32 2 347 24 54
www.nwave.com

Ontario Science Centre
770 Don Mills Rd.
Toronto, ON M3C 1T3 CANADA
Tel: 416-829-4100
Fax: 416-896-3135
www.ontariosciencecentre.ca/

Pacific Science Center
200 Second Avenue North
Seattle, WA 98109 USA
Tel: 206-443-2001
Fax: 206-443-3631
www.pacsci.org

Paramount Pictures Corporation **PPC**
5555 Melrose Avenue
Hollywood, CA 90038-3197 USA
Tel: 323-956-5000
www.paramount.com

Primesco Communications, Inc. **PCI**
4342 Sherbrooke West
Montreal, QC H3Z 1E3 CANADA
Tel: 514-874-9551
Fax: 514-874-9068
www.primesco.com/medias/unf.htm

Radiant Images
4125 W. Jefferson Blvd
Los Angeles, CA 90016 USA
Tel: 323-737-1314
www.radiantimages.com

RED Studios
846 N. Cahuenga Blvd.
Los Angeles, CA 900387 USA
Tel: 323-463-0808
www.red.com

Regal Entertainment Group
7132 Regal Lane
Knoxville, TN 37918 USA
Tel: 865-922-1123
Fax: 865-922-3188
www.regalcinemas.com

Reuben H. Fleet Science Center
1875 El Prado
PO Box 33303
San Diego, CA 92101 USA
Tel: 619-238-1233
Fax: 619-685-5771
www.rhffleet.org

Rough Cut Pictures, Ltd.
London, UNITED KINGDOM
<http://roughcutpictures.co.uk/>

Royal British Columbia Museum
PO Box 9815 Stn Prov Govt
Victoria, BC V8W 9W2 CANADA
Tel: 250-387-3701
Fax: 250-356-8197
<http://rbcm1.rbcm.gov.bc.ca/index.html>

Saint Louis Science Center
5050 Oakland Ave
Saint Louis, MO 63110 USA
Tel: 314-289-4400
Fax: 314-289-4420
www.slsc.org

Sarai, Inc. **SAR**
Urban Shibakoen 4th Fl
3-1-13 Shibakoen, Minato-Ku
Tokyo, 105-0011 JAPAN
Tel: +81-3-5777-5206
Fax: +81-3-5777-5207
www.sarai-inc.com/

Science Museum of Minnesota
120 W. Kellogg Blvd.
Saint Paul, MN 55102 USA
Tel: 651-221-9444
Fax: 651-221-9433
www.smm.org

Science Museum of Virginia
2500 W. Broad Street
Richmond, VA 23220 USA
Tel: 804-864-1400
Fax: 804-367-9348
www.smv.org

Science North **SN**
100 Ramsey Lake Rd.
Sudbury, ON P3E 5S9 CANADA
Tel: 705-522-3701
Fax: 705-522-4954
www.sciencenorth.ca

Shanghai Broadway Cinema IMAX
No. 999 Middle of Huaihai Rd
Xuhui Dist.
Shanghai, 200031 CHINA
Tel: +86-2151061661

Shenyang Olympic Wanda IMAX
4th Fl, No.17 West Yingpan Street
Dongling District
Shenyang, 110000 CHINA
www.wandafilm.com/

SK Films, Inc. **SKF**
Pinewood Toronto Studios
225 Commissioners Street, Suite 303
Toronto, ON M4M 0A1 CANADA
Tel: 416-367-0440
Fax: 647-837-3350
www.skfilms.ca

Sky-Skan, Inc.
51 Lake St.
Nashua, NH 03060 USA
Tel: 603-880-8500
Fax: 603-882-6522
www.skyskan.com/

Smithsonian Institution
1000 Jefferson Drive, SW
Washington, DC 20560 USA
www.si.edu

Sony Pictures Classics, Large Format **SPC**
550 Madison Avenue, 8th Floor
New York, NY 10022 USA
Tel: 212-833-8392
Fax: 212-833-8570
www.sonyclassicslfg.com

Sony Pictures Entertainment **SPE**
10202 West Washington Blvd
Culver City, CA 90232-3195 USA
Tel: 310-244-4000

Spring Films
47 Conduit Street
London, W1S 2YP UNITED KINGDOM
Tel: +44 20 3327 4930
<http://springfilms.tv/>

Stephen Low Company
795 Carson Ave, Suite 6
Dorval, QC H9S 1L7 CANADA
Tel: 514-633-6036
Fax: 514-633-6035
www.stephenlow.com

Stephen Low Distribution, Inc.
795 Carson Ave, Suite 6
Dorval, QC H9S 1L7 CANADA
Tel: 514-633-6036
Fax: 514-633-6035
www.stephenlow.com

SV2 Studios
4836-D Tower Road
Greensboro, NC 27410 USA
Tel: 336-202-4777
www.sv2studios.com/

TCL Chinese Theatres
6925 Hollywood Boulevard
Hollywood, CA 90028 USA
Tel: 323-464-8111
www.tclchinesetheatres.com/

Tech Museum of Innovation
201 South Market Street
San Jose, CA 95113-2008 USA
Tel: 408-294-8324
Fax: 408-279-7167
www.thetech.org

TEQ4
20 Boulevard House
32 Regent Street
Brighton, BN1 1UU UNITED KINGDOM
Tel: +44 1273 667 997
<http://uk.linkedin.com/in/martinteq4/>

Trumbull Studios
Southfield, MA 01259 USA
Tel: 413-229-0318
Fax: 413-229-8097
<http://douglastrumbull.com/>

Twentieth Century Fox **FOX**
10201 W. Pico Blvd.
Los Angeles, CA 90035 USA
Tel: 310-369-3423
www.foxmovies.com

Universal Pictures **UP**
100 Universal City Plaza
Universal City, CA 91608 USA
Tel: 818-777-1000
Fax: 818-622-0407
www.universalstudios.com

Vie Show Cinemas Banciao Mega City
IMAX
10F., No.28, Xinzhan Rd.
Banqiao District
Taipei, 220 TAIWAN
Tel: +86-2-77386608

Virginia Air and Space Center
600 Settlers Landing Road
Hampton, VA 23669 USA
Tel: 757-727-0900
Fax: 757-727-0898
www.vasc.org

Virginia Aquarium and Marine Science Center

717 General Booth Blvd
Virginia Beach, VA 23451 USA
Tel: 757-437-4949
Fax: 757-437-4976
www.virginiaaquarium.com

Walt Disney Studios Motion Pictures **WDPD**
350 S. Buena Vista Street
Burbank, CA 91521-1232 USA
Tel: 818-560-6200
www.disney.go.com

Warner Bros. **WB**
4000 Warner Blvd.
Burbank, CA 91522 USA
Tel: 818-954-6000
www2.warnerbros.com

Weinstein Company
375 Greenwich St 3rd Floor
New York, NY 10013 USA
Tel: 212 941 3800
Fax: 212 941 3949
<http://weinsteinco.com>

Whitaker Center for Science and the Arts
222 Market Street
Harrisburg, PA 17101 USA
Tel: 717-214-2787
Fax: 717-221-8208
www.whitakercenter.org

WingNut Films
PO Box 15 208, Miramar
Wellington, 6003 NEW ZEALAND
Tel: +64-4-388-9939
Fax: +64-4-388-9449

Wuhan CGV & IMAX
B301, No.809 Heping St
Qingshan District
Wuhan, 430080 CHINA
Tel: +86-27-86370388
www.cgv.co.kr/

Wuhan Lingjiaochu Wanda & IMAX
4th Fl, Entertainment Bldg, Wanda Plaza
No.5 of Tangjiadun, Xinhua West Rd
Wuhan, 430000 CHINA
Tel: +86-27-85873677
www.wandafilm.com/

Wuxi Huishan Wanda IMAX
4/5th Fl, Wanda Plaza
No.321 Wujun Road
Wuxi, 214714 CHINA
www.wandafilm.com/

Xiamen Jimai Wanda & IMAX
4th Fl, No.137 Jinjiang Road
Jimai District
Xiamen, 361000 CHINA
Tel: +86-59-23603888
www.wandafilm.com/

Xi'an Beilin Wanda & IMAX
4th Fl, No.8 North of Yanta Rd
Beilin District
Xi'an, Shanxi Prov. 710000 CHINA
www.wandafilm.com/

Xi'an Daminggong Wanda & IMAX
4Fl, No. 369 North2 Ring and Taihua North Road Cross

Xi'an, 7110016 CHINA
Tel: +86-29-89606080
www.wandafilm.com/

XpanD USA
115 W. California Blvd., #206
Pasadena, CA 91105 USA
Tel: 626-405-1114
Fax: 626-796-1717
www.xpandcinema.com

Xuzhou Yunlong Wanda & IMAX
4fl., No. 58 Heping Avenue
Yunlong
Xuzhou, 221000 CHINA
Tel: +86-516 68000068
www.wandafilm.com/

Yixing Wanda IMAX
3/4th Fl, No.550 of Donghong Road
Jiangsu
Yixing, 214000 CHINA
www.wandafilm.com/

Yuyao Wanda Plaza & IMAX
No.855 west of Siming Rd
Yuyao District
Ningbo, Zhejiang Prov. 315400 CHINA
www.wandafilm.com/

Classified Ads

Classified Advertising
is accepted in the category of
Employment. The rate for
organizations to post job
opening announcements is
US\$0.50 per word.

There is no charge for
individuals to post an ad in the
"Positions Sought" category.

Insert advertising
puts your message in the hands
of *LF Examiner's* hundreds of
subscribers worldwide.

Advertisers provide their
own pre-printed inserts that are
placed in each copy of the
newsletter.

For rates and our editorial
calendar, please send e-mail to
editor@LFExaminer.com or
call 410-997-2780 between 10
a.m. and 6 p.m. Eastern time.

LF Examiner SUBSCRIPTION ORDER FORM

Enter my one-year subscription to LF Examiner for US\$447. (\$US487 outside North America).
I understand that if at any time I am not completely satisfied I can receive a refund of my *full subscription price*.

☐ Bill me ☐ Visa ☐ Mastercard ☐ AmEx ☐ Check ☐ Purchase Order
Credit card account: _____ exp _____

Name (please print)

Company

Address

City State/Province Zip/Postal Code Country

Signature

Phone number

Fax number

E-mail address

LF Examiner • 8713 Castle Hill Ave., Las Vegas, NV 89129, USA • Tel: 702-331-1843 • orders@LFExaminer.com

SHORTS

Interstellar opens early on film

Christopher Nolan has again used his influence as one of the top ten highest-grossing directors to promote the use of film — actual acetate — in movie theaters, arranging for *Interstellar* to open two days earlier in film theaters — whether IMAX 15/70, 5-perf 70mm, or 35mm — than in digital houses. In North America, some 41 IMAX theaters start running their 15/70 film prints at 8 pm local time on Tuesday, Nov. 4, along with 11 70mm screens and about 200 35mm houses. Internationally, another 12 IMAX theaters have film prints. Digital theaters start running the space epic on the evening of Thursday, Nov. 6.

The full list of international 5/70 and 35mm bookings was not available, but in 70mm.com lists four European theaters running *Interstellar* in 5/70, and one in Canada.

At some conventional theaters, film projectors have been taken out of storage and returned to booths from which they had been banished when digital systems were installed. At the famous **TCL Chinese Theatres IMAX** in Hollywood, which became an IMAX digital theater and was extensively renovated in late 2013, a 15/70 film projector has recently been installed specifically for *Interstellar*. Sources tell us it will be removed at the end of the run. (Although the theater has more seats than any other IMAX venue in the world — 932 — its 94-foot-wide screen is only about 46 feet tall, giving it a 2:1 aspect ratio. If the 15/70 projector is set up to fill the width of the screen, audiences will lose out on the expansion to the full 1.33 aspect ratio of the portions of the film Nolan shot with IMAX 15/65 cameras.)

Although the early opening has been hailed by film buffs, including members of the GS community, for highlighting the superiority of the film image over digital

projection, many theater operators, particularly at smaller chains that struggled to go digital, are not happy. *The Hollywood Reporter* quoted regional exhibitors who called it “a step back in time” and said it “devalues” their switch to digital.

Nolan has said that he shot more than 60 minutes of the 169-minute film with IMAX 15/65 film cameras; the rest was shot in anamorphic 35mm, at 2.40 ratio. Only in 15/70 prints will the image expand from 2.40 to the full 1.33 IMAX



Matthew McConaughey stars in Christopher Nolan's *Interstellar*.

frame. In digital IMAX it will go from 2.40 to digital's native 1.9 ratio, a much less noticeable transition.

At interstellarmovie.com/formats/, the process of preparing each of the various film and digital versions is described in detail. The 15/70 and 5/70 prints were struck optically from 15/65 and 35mm elements, and 35mm prints were struck from a combination of the 35mm material and digital scans of the 15/65 footage. Neither of the non-IMAX film formats will change aspect ratios. It is not clear if non-IMAX digital prints will switch ratios.

Imax Corporation's latest list of 15/70 bookings worldwide is available at tinyurl.com/imaxint.

Crouching Tiger controversy

In late September, the **Weinstein Company** announced that its sequel to 2000's *Crouching Tiger, Hidden Dragon* will

open simultaneously on **Netflix** and in select global IMAX theaters on Aug. 28, 2015. *Crouching Tiger, Hidden Dragon: The Green Legend* features **Michelle Yeoh** reprising her role from the original, and is being directed by **Yuen Wo-ping**.

It is the first of several films that Netflix is backing for a simultaneous release with **Imax Corporation**, according to a press release. Imax CEO **Richard Gelfond** told the *L.A. Times*, “I put this in the category of an experiment for us.”

The announcement sparked immediate reactions from the top five North American theater chains. **Regal Entertainment**, **AMC Entertainment**, **Cinemark**, and **Carmike Theaters**, which together operate more than 80% of the 310 multiplex IMAX screens in the U.S., were unanimous in refusing to show the film in their IMAX theaters. Regal said in a statement that “we will not participate in an experiment where you can see the same

product on screens varying from three stories tall to three inches wide on a smart phone.”

Canada's **Cineplex Entertainment**, with 20 IMAX screens, and Europe's **Cineworld** (with eight), have also refused, the latter stating, “We bring our customers the IMAX experience as the complete opposite of home entertainment, which can be found on all sorts of smaller, everyday screens like the TV or smart phones and devices. We believe that the theatrical experience and IMAX, as one of its cornerstones, should be kept apart from home entertainment.”

In response, Gelfond told *Deadline* that he feels the chains should reconsider, saying, “This movie is being released August 28. This year that was the worst box office weekend of the year, and Labor Day, the following weekend, isn't much better. We

(see **SHORTS** on page 20)